

Dr.VIJAY KUMAR GARLAPATI – CURRICULUM VITAE

Dept. Biotechnology and Bioinformatics

Jaypee University of Information Technology Waknaghat 173234, HP, India.

Phone: +91-9805114737; E-mail: shanepati@gmail.com / drtechgarlapati@gmail.com

<http://www.scopus.com/authid/detail.url?authorId=33367945000>
<https://scholar.google.co.in/citations?user=GA8WSDEAAAAJ&hl=en>

EDUCATION

- Ph.D (Bioprocess Technology /Industrial Biotechnology), IIT Kharagpur, India. May 6, 2011
- M.Tech. Biotechnology, Andhra University, India. 2003
- B.Pharm Pharmaceutical Sciences, Osmania University, India. 2000

APPOINTMENTS

- ❖ March 1, 2021 – Till date, Associate Professor, Dept. of Biotechnology & Bioinformatics, Jaypee University of Information Technology, India
- ❖ September 30, 2016 – February 28, 2021, Assistant Professor (Senior Grade), Dept. of Biotechnology & Bioinformatics, Jaypee University of Information Technology, India
- ❖ November 1, 2013 – September 29, 2016, Asst. Professor (Grade-II), Dept. of Biotechnology & Bioinformatics, Jaypee University of Information Technology, India
- ❖ October 8, 2013 – October 31, 2013, Asst. Professor (Grade-I), Dept. of Biotechnology & Bioinformatics, Jaypee University of Information Technology, India
- ❖ October 6, 2011-October 5, 2013, A4UPostdoctoral Researcher, Dept'deEnginyeriaQuimica, UniversitatAutònoma de Barcelona, Spain.
- ❖ August 31, 2010- September 21, 2011 Assistant Professor (Grade-I), Dept. of Biotechnology & Bioinformatics, JaypeeUniversity of Information Technology,India.
- ❖ Jan 6, 2006- July 31, 2010, Institute Research Fellow, Microbial Biotechnology & DSP Laboratory, IIT Khargpur, India.
- ❖ June 28, 2005-Decemehr 24, 2005, Lecturer, Dept. of Biotechnology, MICCollege of technology, AP, India
- ❖ Dec 1, 2003 –April 11, 2005, Lecturer, Dept. of Biotechnology, Bapatla Engineering college, AP, India
- ❖ November 18, 2000-November 25, 2001, Assistant Manufacturing Chemist, DOMAGK Pharmaceuticals Pvt., Ltd., AP, India.

RESEARCH EXPERTISE

- **Fermentation technology:** Production of industrial enzymes through solid state and submerged fermentations & its scale up studies.
- **Downstream processing:** Purification and characterization of industrial enzymes
- **Immobilization Technology:** Immobilization of enzymes by adsorption, cross linking, covalent, entrapment techniques & its characterization
- **Biocatalysis:** Lipase mediated synthesis of flavor esters and biodetergent formulation.

- **Biofuels:** Lipase mediated transesterification of edible, non-edible, waste oils and oleaginous lipids to fatty acid methyl esters (Biodiesel) & its characterization; Lignocellulosic bioethanol production.
- **Microalgal Technology:** Production of therapeutic enzymes and algal lipids, Bioremediation of Medical and Pharmaceutical Effluents
- **Food Biotechnology:** Microbial production of pectinolytic enzymes and its usage in debittering and clarification of fruit juices; Isolation of Probiotics and its characterization; Enhancement of therapeutic efficacy of nutraceuticals.
- **Waste Valorization:** Agricultural and food wastes towards biofuel, microbial media and polymers production.
- **Bioenergy:** Studies on utilization of complex carbon sources such as Methanol and Lignocellulosics in Bioelectrochemical systems (BES)
- **Environmental Biotechnology:** Laccase mediated decolorization of textile dyes, Biotechnological approaches for E-waste utilization
- **Enhanced Biological Phosphorus Removal:** Pilot plant studies on Modeling of PAO-GAO competition for phosphorus removal using EBPR
- **Statistical packages:** MINITAB, STATISTICA and DESIGN EXPERT
- **Soft computing skills:** Genetic algorithm, Differential evolution, Particle Swarm and Artificial Bee Colony optimization approaches.
- **Computer skills:** Microsoft Office, Origin and Ubuntu

HONOURS & FELLOWSHIPS

-
- ✓ Listed in "Top 2% World's Scientists (2023, 2022, 2021, 2020 & 2019)" by Stanford University, USA.
 - ✓ Serving as an International Advisory Panel Member, Elsevier
 - ✓ Serving as a "Associate Editor" in "**Frontiers in Energy Research (IF: 3.858)**",
 - ✓ Serving / Served as a Review Editor" in "**Frontiers in Bioengineering and Biotechnology (IF:6.064)**" and "**Frontiers in Catalysis**".
 - ✓ Serving / Served as an **Editorial Board Member** in "**BMC Biotechnology (IF:3.329)**", "**Bioengineered (IF:6.832)**", "**Journal of Chemistry (IF:3.241)**",
 - ✓ Serving as a "**Reviewer**" for "Renewable and Sustainable Energy Reviews", "Biotechnology Advances", "Bioresource Technology", "Journal of Cleaner Production", "Fuel", "Waste Management", "Taiwan Institute of the Chemical Engineers", "Food Research International". "Biocatalysis and Agricultural Biotechnology", "International Journal of Biological Macromolecules", "Industrial Crops and Products", "Ecotoxicology and Environmental Safety" (Elsevier), "Chemical Society Reviews" (RSC), "Biotechnology for Biofuels and Bioproducts", "Scientific Reports", "Microbial Cell Factories", "Cellulose", "Food and Bioprocess Engineering" (Springer Nature) and "Bioengineered" (Taylor & Francis).
 - ✓ SERB-ITS Travel Grant, 2017
 - ✓ A4U Postdoctoral Fellowship, Spain, 2011 -2013
 - ✓ Institute Research Fellowship, IIT Kharagpur, 2006-2010
 - ✓ GATE - MHRD Fellowship, 2002-2003

PATENTS/RESEARCH PUBLICATIONS/BOOKS/BOOK CHAPTERS/CONF. PAPERS

Granted Patents

1. Prof. Banerjee R, Kumari A, Mahapatra P and **Garlapati VK**, “Enzymatic transesterification of Jatropha Oil” (IPA No. 1728/KOL/2007/ dated 2007-12-26). (National) (**Patent Number: 291288**)
2. Prof. BanerjeeR,**GarlapatiVK**,KumariA,MahapatraP,Kant R and Prof. Das P, “Enzymatic transesterification of simarouba Oil” (IPA No. 1431/KOL/2008 dated 2008-08-22). (National) (**Patent Number: 405327**)

Research Publications in SCI- Journals

1. Pant RS, Vundavilli PR, Khadanga KC, KuilaA,**Garlapati VK**(2024) Concomitant production of Inhibitor-Tolerant cellulase and xylanase by *Zasmidium cellare* CBS 146.36: Fuzzy Logic Modelling coupled saccharification and Fermentation Efficiency.Fuel 375: 132593. (**IF: 6.7**)
2. Jacob S, Rajeswari G, RaiA,Tripathy SS, GopalS,Das E,KumarV,KumarSPJ,Aminabhavi TM, **Garlapati VK**(2024) Paradigm of Integrative OMICS of Microbial Technology Towards Biorefinery. Biocatalysis and Agricultural Biotechnology 58:103226.(**IF: 3.4**)
3. Maddirala S, Bhadra S, Mozumder MSI, **Garlapati VK**, Sevda S (2024) Advancements in Bioelectrochemical Systems for Solid Organic Waste Valorization: A Comprehensive Review. Processes 12(4):805. (**IF: 2.8**)
4. Sharma S, Kant A, Sevda S Ambhinavi T, **Garlapati VK** (2023) A waste-based circular economy approach for phycoremediation of X-ray developer solution. Environmental Pollution 316(1):120530. (**IF: 7.6**)
5. Sharma S, Sevda S, Show PL, Ambhinavi T, **Garlapati VK** (2023) Valorization of Environmental-burden Waste towards Microalgal Metabolites Production. Environmental Research 227: 115320. (**IF: 7.5**)
6. Sripathy K.V, Udayabhaskar K, Chandu Singh , Ramesh KV, Govind Pal, Ashutosh Kumar, Jeevan Kumar SP, Raja DK, UmeshKamble R, Sanjay Kumar, **Garlapati VK** (2023) Interference of Nanoparticulates in seed invigoration of Green gram. Plant Physiology and Biochemistry 195: 256-265. (**IF: 6.1**)
7. Chowdhury A, Choudhary M, Sharma V, Kant A, Vashist J, **Garlapati VK** (2023) Exploration of Indian Traditional recipe "Tarvaani" from the drained rice gruel for nutritional and probiotic potential. International Journal of Gastronomy and Food Science 31:100670 (**IF: 3.2**)
8. Kumar SPJ, **Garlapati VK**, Gujjala LKS,Banerjee R, (2023) Bioconversion of waste glycerol for enhanced lipid accumulation in *Trichosporonshinodae*. Biomass Conversion and Biorefinery13, 15401–15412. (**IF: 3.5**)
9. Sevda S, **Garlapati VK**, Sreekrishnan TR (2023)Role of Electrode and Proton Exchange Membrane Configurations on Microbial Fuel Cell Performance towards bioelectricity generation integrated wastewater Treatment. Journal of Toxicology and Environmental Health, Part A 58 (1): 13-23. (**IF: 2.3**).
10. Wu P, Chen J, Garlapati VK, Zhang XX, Jenario FWV, Li X, Liu W, Chen C, Aminabhavi TM, Zhang X(2022) Novel Insights into Anammox-based Processes from the Application Perspective: A Critical Review. Chemical Engineering Journal 444:136534. (**IF:13.3**)

11. Garlapati VK, Parashar SK, Klykov S, Vundavilli PR, Sevda S, Srivastava SK, Taherzadeh MJ (2022) Invasive weed optimization coupled biomass and product dynamics of tuning soybean husk towards lipolytic enzyme. *Bioresource Technology* 344(B):126254. (IF: 9.7)
12. Ray RR, Prabhu A, Prasad D, **Garlapati VK**, Mani NK, Aminabhavi TM, Simal-Gandara J (2022) Paper-based Microfluidic Devices for Food Adulterants: Cost-Effective Technological Monitoring Systems. *Food Chemistry* 390 (1): 133173. (IF:8.5)
13. Chauhan M, Dutt S, Manjul AS, Singh B, **Garlapati VK** (2022) A sustainable approach of turning potato waste towards Bioethanol production using Indigenous microbes of Himachal Pradesh, India. *Chemosphere* 299: 134429. (IF:8.1)
14. Kumar SPJ, **Garlapati VK**, Banerjee R, (2022) Enzymatic biodiesel synthesis from *Trichosporonshinodae* yeast through circular economy: A greener approach. *Fuel* 325 (1):124595. (IF:6.7)
15. Hemdan B, **Garlapati VK**, Sharma S, Bhadra S, Maddirala S, Varsha K M, Motru V, Goswami P, Sevda S, aminabhavi T (2022) Bioelectrochemical Systems-based Metal Recovery: Resource, Conservation and Recycling of Metallic Industrial Effluents. *Environmental Research* 204(D): 112346. (IF:7.5)
16. Ruschoni UCM, Mera AEM, Zamudio LHB, Kumar V, Taherzadeh MJ, **Garlapati VK**, Chandel AK (2022) Comprehensive Review on Biotechnological production of hyaluronic acid: status, innovation, market and applications. *Bioengineered* 13(4): 9645-9661. (IF:4.2)
17. Kuleshova T, Rao A, Bhadra S, **Garlapati VK**, Sharma S, Kaushik A, Goswami P, Sreekirshnan TR, Sevda S (2022) Plant microbial fuel cells as an versatile agro-technology for green energy generation combined with wastewater treatment and food production. *Biomass & Bioenergy* 167: 106629. (IF:5.8)
18. Bhatia L, Bachheti RK, **Garlapati VK**, Chandel AK (2022) Third generation biorefineries: a sustainable platform for food, clean energy and nutraceuticals production. *Biomass Conversion and Biorefinery* 12: 4215-4230. (IF: 4.050)
19. Yadav AK, Kuila A, **Garlapati VK** (2022) Biodiesel production from *Brassica juncea* using an oleaginous yeast. *Applied Biochemistry and Biotechnology* 194(9): 4066-4080. (IF:3.1)
20. Sharma S and **Garlapati VK** (2021) Characterization and Microalgal Toxicity Screening of X-ray Fixer Solution towards Bioremediation. *International Journal of Environmental Science and Technology* 18: 3307-3312. (IF:3.0)
21. Agrawal PK, Upadhyay P, Shrivastava R, Sharma S, **Garlapati VK** (2021) Evaluation of the Ability of Endophytic Fungi from *Cupressus torulosa* to Decolorize Synthetic Textile Dyes. *Journal of Hazardous, Toxic and Radioactive Waste* 25(1):1-5. (IF: 2.1)
22. Chintagunta AD, Zuccaro G, Kumar M, Jeevan Kumar SP, **Garlapati VK**, Postemsky PD, Kumar NSS, Chandel AK, Simal-Gandara J (2021) Biodiesel production from Lignocellulosics biomass using oleaginous microbes: Prospects for integrated biofuel production. *Frontiers in Microbiology* 12:2080. (IF:4.0)
23. **Garlapati VK**, Mohapatra SB, Mohanty RC, Das P (2021) Transesterified *Ola x Scandens* oil as a bio-additive: Production and diesel engine performance studies. *Tribology International* 153: 106653. (IF: 6.1)
24. Jeevan Kumar SP, Chintagunta AD, Mohan Reddy Y, Rajjou L, **Garlapati VK**, Agarwal DK, Rajendra Prasad S, Simal-Gandara J (2021) Implications of reactive oxygen and

- nitrogen species in seed physiology for sustainable crop productivity under changing climate conditions. *Current Plant Biology* 26:100197.(**IF: 5.4**)
25. Sharma S and **Garlapati VK** (2021) Phycoremediation of X-ray Developer Solution towards Silver Removal with Concomitant Lipid Production. *Environmental Pollution* 268 (A): 115837. (**IF: 7.6**)
 26. Omid M, Mashkour M, Biswas JK, **Garlapati VK**, Singh L, Rahimnejad M, Pant D (2021) From electricity to products - Recent updates on microbial electrosynthesis(MES).*Topics in Catalysis* (Online First).(**IF: 2.8**)
 27. Sharma S, Singh A, Sharma S, Kant A, Sevda S, Taherzadeh MJ, **Garlapati VK** (2021) Functional Foods as a formulation ingredients in beverages: Technological Advancements and Constraints. *Bioengineered* 12(2): 11055-11075. (**IF:4.2**)
 28. **Garlapati VK**, Chandel AK, Kumar SPJ, Sharma S, Sevda S, Ingle AP, Pant D (2020) Circular Economy Aspects of Lignin: Towards a Lignocellulose Biorefinery. *Renewable and Sustainable Energy Reviews* 130: 109977.(**IF: 16.3**)
 29. Chandel AK, **Garlapati VK**, Kumar SPJ, Singh AK, Hans M, Kumar S (2020) The Role of Renewable Chemicals and Biofuels in Building a Bio-economy. *Biofuels, Bioproducts and Biorefining*14:830–844. (**IF: 3.2**)
 30. Sevda S, **Garlapati VK**, Naha S, Sharma M, Ray SG, Sreekrishnan TR, Goswami P (2020) Biosensing capabilities of Bioelectrochemical Systems towards sustainable water streams: Technological implications and Future prospects. *Journal of Bioscience and Bioengineering* 129 (6): 647 -656. (**IF:2.3**)
 31. Gour RS, **Garlapati VK**, Kant A (2020) Effect of salinity stress on Lipid accumulation in *Scenedesmus* sp. and *Chlorella* sp.: Feasibility of stepwise culturing. *Current Microbiology* 77(5): 779-785.(**IF: 2.3**)
 32. Banerjee R, Kumar SPJ, Mehendale N, Sevda S, **Garlapati VK** (2019) Intervention of Microfluidics in Biofuel and Bioenergy Sectors: Technological Considerations and Future Prospects. *Renewable and sustainable Energy Reviews* 101: 548-558 (**IF: 16.3**).
 33. Chandel AK, **Garlapati VK**, Singh AK, Antunes FAF, Silva SSD (2018) The path forward for lignocellulose biorefineries: Bottlenecks, Solutions, and perspective on commercialization. *Bioresource Technology* 264:370-381.(**IF:9.7**).
 34. Parashar SK, Srivastava SK, Dutta NN, **Garlapati VK**(2018) Engineering aspects of immobilized lipases on esterification: A special emphasis of crowding, confinement and Diffusion effects.*Engineering in Life Sciences* 18:308-316. (**IF:3.9**)
 35. Gour RS, Bairagi M, **Garlapati VK**, Kant A (2018) Enhanced microalgal lipid production with media engineering of Potassium nitrate as a nitrogen source. *Bioengineered* 9(1): 98-107.(**IF:4.2**)
 36. Samudrala PJK, **Garlapati VK**, Dash A, Banerjee R, Scholz P (2017) Sustainable Green Solvents and Techniques for Lipid Extraction from Microalgae: A Review. *Algal Research* 21: 138-147.(**IF:4.6**)
 37. Jha D, Jain V, Sharma B, Garlapati VK (2017) Microalgae-based Pharmaceuticals and Nutraceuticals: An Emerging Field with Immense Market Potential.*ChemBioEng Reviews* 4(4):257-272. (**IF:6.2**)
 38. Chauhan M, Yennamalli RM and **Garlapati VK** (2016) Biochemical and Molecular Characterization of a unique lipase from *Staphylococcus arlettae* JPBW-1. *Engineering in Life Sciences* 16(8): 762-768 (**IF:3.9**)

39. **Garlapati VK[#]**, Sharma D[#], Goel G (2016) Bioprocessing of wheat bran for the production of lignocellulolytic enzyme cocktail by *Cotylidiapannosa* under submerged conditions. *Bioengineered* 7(2): 88-97. **(IF:4.2)**
40. **Garlapati VK^{*}** (02-2016) E-waste in India and Developed countries: Management, Recycling, Business and Biotechnological Initiatives. *Renewable and Sustainable Energy Reviews* 54:874-881. **(IF: 16.3)**
41. Chauhan M and **Garlapati VK**(2014) Modelling Embedded Optimization Strategy for Formulation of Bacterial Lipase based Bio-detergent. *Industrial & Engineering Chemistry Research* 53(2): 514-520. **(IF:3.8)**
42. MontpartN, Ribot-Llobet E, **Garlapati VK**, Rago L, Baeza JA, Guisasola A (2014) Methanol opportunities for electricity and hydrogen production in bioelectrochemical systems. *International Journal of Hydrogen Energy* 39 (2): 770-777. **(IF:8.1)**
43. Chauhan M and **Garlapati VK** (2013) Production and characterization of a halo-, solvent-, thermo tolerant alkaline lipase by *Staphylococcus arlettae* JPBW-1, isolated from rock salt mine. *Applied Biochemistry and Biotechnology* 171(6): 1429-1443. **(IF:3.1)**
44. **Garlapati VK**, Kumari A, Mahapatra P and Banerjee R (2013) Modeling, Simulation and Kinetic studies of solvent-free biosynthesis of Benzyl acetate. *Journal of Chemistry*. Article ID 451652, 9 pages, 2013. doi: 10.1155/2013/451652. **(IF:2.8)**
45. Chauhan M, Chauhan RS, **Garlapati VK** (2013) Evaluation of a new lipase from *Staphylococcus* sp. for detergent additive capability. *BioMed Research International*, vol. 2013, Article ID 374967, 6 pages, 2013. (DOI:10.1155/2013/374967) **(IF:2.6)**
46. Tayà C, **Garlapati VK**, Guisasola A, Baeza JA (2013) The selective role of nitrite in the PAO/GAO competition. *Chemosphere* 93(4):612-618. **(IF:8.1)**
47. Bhattacharya SS, **Garlapati VK** and Banerjee R (2011) Optimization of laccase production using response surface methodology coupled with differential evolution. *New Biotechnology* 28 (1):31-39. **(IF:4.5)**
48. **Garlapati VK**, Vundavilli PR and Banerjee R (2010) Evaluation of lipase production by Genetic algorithm and Particle swarm optimization and their comparative study. *Applied Biochemistry and Biotechnology* 162: 1350-1361. **(IF:3.1)**
49. **Garlapati VK** and Banerjee R (2010) Evolutionary and swarm intelligence based approaches for optimization of lipase extraction from fermented broth. *Engineering in Life Sciences* 10(3):1-9. **(IF:3.9)**
50. **Garlapati VK** and Banerjee R (2010) Optimization of lipase production using Differential evolution. *Biotechnology and Bioprocess Engineering* 15(2):254-260. **(IF:2.5)**
51. Mahapatra P, Kumari A, **Garlapati VK**, Banerjee R, Nag A (2010) Optimization of Process Variables for Lipase Biosynthesis from *Rhizopus oligosporus* NRRL 5905 Using Evolutionary Operation Factorial Design Technique. *Indian Journal of Microbiology* 50(4):396-403. **(IF:2.1)**
52. Mahapatra P, Kumari A, **Garlapati VK**, Banerjee R and Nag A (2009) Enzymatic synthesis of fruit flavor esters by immobilized lipase from *Rhizopus oligosporus* optimized with response surface methodology. *Journal of Molecular Catalysis B: Enzymatic* 60:57–63. **(IF:3.9)**
53. Mahapatra P, Kumari A, **Garlapati VK**, Banerjee R and Nag A (2009) Kinetics of solvent-free geranyl acetate synthesis by *Rhizopus oligosporus* NRRL 5905 lipase

immobilized on to cross-linked silica. *Biocatalysis and Biotransformation* 27(2): 124-130. **(IF:1.4)**.

54. Kumari A, Mahapatra P, **Garlapati VK** and Banerjee R (2009) Enzymatic transesterification of Jatropha oil. *Biotechnology for Biofuels* 2:1. **(IF:6.1)**
55. Kumari A, Mahapatra P, **Garlapati VK**, Banerjee R and Dasgupta S (2009) Lipase mediated isoamyl acetate synthesis in solvent-free system using vinyl acetate as acyl donor. *Food Technology and Biotechnology* 47 (1): 13–18. **(IF:2.3)**
56. Kumari A, Mahapatra P, **Garlapati VK** and Banerjee R (2008) Comparative study of thermostability and ester synthesis ability of free and immobilized lipases on cross linked silica gel. *Bioprocess and Biosystems Engineering* 31:291–298. **(IF:3.5)**

Books

1. Banerjee R, **Garlapati VK**, Samudrala PJK (2019) *OMICS-based Approaches for Plant Biotechnology*. Wiley-Scriviener Publishing House, Austin. USA. (ISBN:9781119509936)

Book Chapters

1. Agarwal I, Sharma S, Sharma D, Kumar S, **Garlapati VK** (2024) Hydrogen production by electrochemical process. In: *Renewable Hydrogen: Opportunities and Challenges in Commercial Success* (Bibra, Sani, & Kumareds), Elsevier, USA, pp.1-24. (ISBN: 9780323953795)
2. Sevda S, Venkatramanan V, Rathore D, Kumar S, Singh A, **Garlapati VK** (2024) Applications of biochemical stoichiometry in biotechnology. In: *Bioreactor Design Concepts for Viral Vaccine Production* (Sevda S & Kumar S, eds), Elsevier, USA, pp.35-46. (ISBN: 9780443153785)
3. Addy R, Yadav A, Kumar M, Ali U, Ankenapally A, **Garlapati VK**, Bhadra S, Sevda S (2022) Bioelectrochemical methods in Biomolecular Analysis. In: *Nanobioanalytical Approaches to Medical Diagnostics* (P Maurya & P Chandra, eds), Woodhead Publishing, Elsevier, USA, pp. 65-104 **(ISBN: 9780323851473)**
4. Kumar SPJ, **Garlapati VK**, Gujjala LKS, Banerjee R (2021) Technologies for oil extraction from oilseeds and oleaginous microbes. In: *Three Phase Partitioning :Applications in Separation and Purification of Biological Molecules and Natural Products*. (MN Gupta and Ipsita Roy, Editors), Elsevier, pp.243-266. (ISBN: 978-0-12-824418-0) (<https://doi.org/10.1016/C2020-0-01235-1>)
5. **Garlapati VK**, Sevda S, Sharma S (2021) Photosynthetic biogas upgrading - An attractive biological technology for biogas upgrading. In: *Emerging Technologies and biological systems for biogas upgrading* (Aryal N, Ottosen LDM, Kofoed MVW and Pant D, Eds). Elsevier, USA, 383-409 (ISBN:9780128228081)
6. Sevda S, **Garlapati VK**, Sharma S, Sreekrishnan TR (2020) Potential of High Energy Compounds: Hythane Production. In: *Delivering Low-Carbon Biofuels with Bioproduct Recovery* (Dr Lakhveer Singh & Dr. Durga Madhab Mahapatra, Eds), Elsevier, USA. pp. 165 -176. (ISBN: 9780128218419)
7. **Garlapati VK**, Naha S, Sharma S, Goswami P, Sevda S (2020) Electro-active biofilms (EAB): Role in a Bioelectrochemical System for waste water treatment and Bioelectricity generation. In: *Microbial Biofilms: Properties and Applications in the Environment*,

- Agriculture, and Medicine (Abdul Bakrudeen Ali Ahmed, Ed), Taylor and Francis, CRC Press , USA. pp.207-226 (ISBN: 9780367415068)
8. E. Mier-Alba, Sánchez-Muñoz S, Gonçalves F, **Garlapati VK**, Balagurusamy N, Silva SS, Chandel AK (2020) Comparative Analysis of Biogas with Renewable Fuels and Energy: Physico-Chemical Properties, and Carbon Footprints. In: Biogas Production Technologies (AK Chandel and Nagamani, Eds) Springer Verlag, Germany. pp.125-143 (ISBN:9783030588274)
 9. Mehendale N, Kumar SPJ, Mani NK, Sevda S, Naha S, Sharma S, **Garlapati VK** (2020) Microfluidics in Lipid Extraction. In: Handbook on Miniaturization in Analytical Chemistry (Hussain MC, Editor) Elsevier, USA. pp.21-34. (ISBN: 9780128197639)
 10. Singhal SR, Mani NK, Kodgi A, Mehendale N, Sharma S, **Garlapati VK** (2020) Miniatured Microfluidics Heuristics towards the detection of polluting molecules in the environment. In: Handbook on Miniaturization in Analytical Chemistry (Hussain MC, Editor) Elsevier, USA. pp.221-235 (ISBN: 9780128197639)
 11. Sevda S, **Garlapati VK**, Datta P, Chandel AK, Pandey L, Rathore D, Singh A, Sreekrishnan TR (2020) Bioethanol Production from Lignocellulosic/Algal Biomass: Potential Sustainable Approach In: Algal Biofuel: sustainable solution (Kothari R, Pathak VV, and Tyagi VV, Eds.). The Energy and Resources Institute (TERI) Press, India. pp.107-119 (ISBN: 9789386530943)
 12. Sevda S, **Garlapati VK**, Sharma S, Bhattacharjee U, Pandey L, Sreekrishnan TR (2020) Oil and petrochemical industries wastewater treatment in bioelectrochemical systems. In: Integrated Microbial Fuel Cells for Wastewater Treatment (Abbassi R, Khan F, Yadav A and , Garaniya V, (Eds.). Elsevier, USA, pp. 157-173 (ISBN: 9780128174937)
 13. Sevda S, **Garlapati VK**, Singh A (2020) Role of Mathematical and Statistical Modelling in Food Engineering. In: Surajbhan Sevda and Anoop Singh (Eds) *Mathematical and Statistical Applications in the Food Engineering*, CRC Press, Taylor & Francis, USA, pp.1-4. (ISBN: 9781138347670). <https://doi.org/10.1201/9780429436963>
 14. Upadrasta L, Bera D, **Garlapati VK** (2020) Evolutionary Optimization Techniques As Effective Tools For Process Modelling In Food Processing. In: : Surajbhan Sevda and Anoop Singh (Eds) *Mathematical and Statistical Applications in the Food Engineering*, CRC Press, Taylor & Francis, USA, pp.5-19. (ISBN: 9781138347670).
 15. Bhatia L, **Garlapati VK**, Chandel AK (2019) Scalable Technologies for Lignocellulosic Biomass Processing into Cellulosic Ethanol. In: Horizons in Bioprocess Engineering (Eds. Ravindra Pogaku), Springer Nature, Switzerland AG, pp.73-90. (ISBN:9783030290689).
 16. Sharma S, Gyeltshen T, Sevda S, **Garlapati VK** (2019) Microalgae in Bioelectrochemical Systems: Technological Interventions. In: Biovalorisation of Wastes to Renewable Chemicals and Biofuels (R. Navanietha Krishnaraj and Rajesh Sani (Eds.). Elsevier, USA, pp.361-371. (ISBN: 9780128179512)
 17. Prasad A, Thakur S, Sharma S, Saxena S, **Garlapati VK** (2019) Technological barriers in bio-butanol production. In: Lalit Kamel Singh and Gaurav Chaudhary (Eds.) *Advances in Biofeedstocks and Biofuels. Volume 3: Liquid Biofuel Production*. Wiley – Scrivener Publishing House, Austin, USA, pp.209-224. (ISBN:9781119459873)
 18. Sevda S, **Garlapati VK**, Sharma S, Singh S, Pandey L, Sreekrishnan TR, Singh A (2019) Sustainability assessment of Microbial fuel cells. In: Lakhveer Singh and

- DurgaMadhabMahapatra (Eds) *Waste to Sustainable Energy: MFC's – Prospects through Prognosis*, Taylor and Francis, CRC Press, UK, pp. 315-332. (ISBN: 9781138328211)
19. **Garlapati VK**, Tewari S, Ganguly R(2019) LCA of First-, Second- generation, and MicroalgaeBiofuels. In: MajidHosseini (Ed.),*Advances in Feedstock Conversion Technologies for Alternative Fuels and Bioproducts*. Elsevier, Imprint: Woodhead Publishing., USA, pp. 355-371. (ISBN: 9780128179376)(DOI: 10.1016/B978-0-12-817937-6.00019-9)
 20. Upadrasta L, **Garlapati VK**, Lakdawala N, Banerjee R (2018) Enzyme triggered hydrogels for pharmaceutical and food applications. In: ShashiLataBharati and Pankaj Kumar Chaurasia (Eds.), *Research Advancements in Pharmaceutical, Nutritional and Industrial Enzymology*. IGI Global Publishers, Pennsylvania, USA, pp.159-177 (ISBN: 9781522552376)
 21. Parihar NS, **Garlapati VK**, Ganguly R (2018)Stabilization of black cotton soil using waste glass. In: ChaudheryMustansar Hussain (Editor), *Handbook On Environmental Materials Management*, Springer International Publishing AG, Switzerland, pp. 1-16 (ISBN: 9783319736457)
 22. Ganguly R and **Garlapati VK** (2017) Comparative account on carbon footprints of burning gasoline and ethanol. In: AnujChandel and Marcos Henrique Luciano Silveira (Eds.), *Sugarcane bio-refinery: Technologies, commercialization, policy issues and paradigm shift*. Elsevier Science Publishing Co Inc., USA, pp. 241-252 (ISBN: 9780128045343)
 23. Chandel AK, Bhatia L, Garlapati VK, Roy LS, Arora A (2017). Biofuel Policy in Indian Perspective: Socioeconomic Indicators and Sustainable Rural Development. In AnujK. Chandel and Rajeev K. Sukumaran (Eds.), *Sustainable Biofuels Development in India*, Springer International Publishing AG, Switzerland, pp.459-488. (ISBN:9783319502175).
 24. **Garlapati VK**, Gour RS, Sharma V, Roy LS, Samudrala PJK, Thakur AK and Banerjee R (2017) Current Status of Biodiesel Production from Microalgae in India. In:LalitKamel Singh and Gaurav Chaudhary (Eds.)*Advances in Biofeedstocks and Biofuels. Volume 2: Production Technologies for Biofuels*.Wiley –Scrivener Publishing House, Austin, USA, pp.129-154. (ISBN: 9781119117520)
 25. Kuila A, Sharma V,**Garlapati VK**, Singh A, Roy LS, Banerjee R (2017) Present status on enzymatic hydrolysis of lignocellulosic biomass for bioethanol production. In:LalitKamel Singh, GauravChaudhary(Eds.)*Advances in Biofeedstocks and Biofuels. Volumel : Biofeed stocks and their processing*. Wiley –Scrivener Publishing LLC, Austin, USA, pp.85-96. (ISBN: 9781119117254)
 26. **Garlapati VK**, Roy LS, Banerjee R. (2015). An overview of Reactor Designs for Biodiesel production. In R. NavaniethaKrishnaraj, Jong-Sung Yu (Eds.), *Bioenergy: Opportunities and Challenges*, CRC Press, Taylor and Francis Group, USA, pp.221-240. (ISBN 9781771881098)
 27. Roy LS, **Garlapati VK**, Banerjee R. (2015). Challenges in Harnessing the Potential of Lignocellulosic Biofuels and the Probable Combating Strategies. In R. NavaniethaKrishnaraj, Jong-Sung Yu (Eds.), *Bioenergy: Opportunities and Challenges*, CRC Press, Taylor and Francis Group, USA, pp.171-204.(ISBN: 9781771881098)

Papers presented in Symposium / Conferences

1. Bharti A, Kumar A, Kumar S, **Garlapati VK**, "Biogas Slurry as a Cultivation Media for *Chlorella pyrenoidosa*" Oral presentation in "International Conference on Innovations in Biotechnology for Sustainability (IBS-2024)", November 23-25, 2024, JNU, New Delhi, India.
2. Agarwal I, **Garlapati VK**, Kumar S "Biohydrogen Production From Pine Needles Using Dark Fermentation" poster presentation in "2nd International Conference on Biotechnology and Bioinformatics (ICBAB-2023)", July 11-13, 2023, JUIT, HP, India.
3. Bharti A, Kumar A, **Garlapati VK**, Kumar S "Phycouprgradation of Biogas from Pine needle Co- digested with Food Waste" poster presentation in "2nd International Conference on Biotechnology and Bioinformatics (ICBAB-2023)", July 11-13, 2023, JUIT, HP, India.
4. **Garlapati VK** "Bioprocess Engineering Laboratory- Algal Research 2023" Poster Presentation in "International Symposium on Advances in Algal Research (AAR-2023)", IIT Guwahati, June 12 -14, Guwahati, India.
5. **Garlapati VK** and Banerjee R "Green Synthesis of Fatty Acid Methyl Esters through Entrapped Lipase-mediated Transesterification" Oral presentation in 2nd International Conference on "Future Aspects of Sustainable Technologies (FAST 2.0)", October 20-21, 2020, CIT Kokrajhar - 783370, Assam, India.
6. Chauhan M, Dutt S, Manjul AS, Yennamalli RM, Singh B, **Garlapati VK** "A sustainable approach of tuning Potato waste towards Bioethanol production using Indigenous microbes of Himachal Pradesh, India" Oral presentation in 2nd International Conference on "Future Aspects of Sustainable Technologies (FAST 2.0)", October 20-21, 2020, CIT Kokrajhar - 783370, Assam, India.
7. Parashar SK, Klykov S, Vundavilli PR, Yennamalli RM, Shrivastava SK, **Garlapati VK** "An Invasive Weed Optimization coupled Biomass and Product Dynamics study of Soyabean Waste utilization towards Fungal Lipase Production" Oral presentation in 2nd International Conference on "Future Aspects of Sustainable Technologies (FAST 2.0)", October 20-21, 2020, CIT Kokrajhar - 783370, Assam, India.
8. Kumar SPJ, **Garlapati VK**, Banerjee R "Biotransformation of single cell oil of *Trichosporonshinodae* to Biodiesel: Production and physico-chemical properties of FAME" poster presentation in 2nd International Conference on "Future Aspects of Sustainable Technologies (FAST 2.0)", October 20-21, 2020, CIT Kokrajhar - 783370, Assam, India.
9. Sharma S and **Garlapati VK**, "Microalgae-based Bioremediation of the radiographic waste solution" oral presentation in "International Conference on Application of Biotechnology in Industry and Society -2019 (ABIS-2019)", November 14-16, 2019, NIT Jalandhar - 144011, Punjab, India.
10. Sharma S and **Garlapati VK**, "Screening of microalgae towards tolerance of various concentrations of radiographic waste solutions" Poster presentation in "International Conference on recent trends in Biotechnology and Bioinformatics (ICBAB-2019)", August 1-3, 2019, JUIT, Wagnaghat -173234, HP, India.
11. Sevda S, Sharma S, **Garlapati VK**, "Microfluidics in bioelectrochemical system: Technological considerations and future prospects" Poster Presentation in "Research Conclave 2019", March 14-17, 2019, IIT Guwahati -781039, India.

12. Sharna S and **Garlapati VK**, "Characterization of Medical Waste towards Microalgal-based Bioremediation" Oral presentation in "3rd Himachal Pradesh Science Congress", October 22-23, 2018, IIT Mandi, HP- 175005, India.
13. **Garlapati VK**, Vundavilli PR and Banerjee R., "Optimization of Flavour Ester Production Through Artificial Bee Colony Algorithm" Oral presentation in "IEEE International Conference on Image Information Processing (ICIIP 2017)", December 21-23, 2017, Jaypee University of Information Technology (JUIT), Wanknaghat, HP- 173234, India.
14. **Garlapati VK**, Shahi NV, Sharma R., "Evaluation of lipase for its formulation additive in bio-based toothpaste and contact lens solution" Oral presentation in "The 13th Asian Congress on Biotechnology (ACB 2017) " Bioinnovation and Bioeconomy", July 23-27, 2017, KhonKaen, Thailand.
15. **Garlapati VK** and Shahi NV., "Formulation of Bio-based toothpaste" Oral presentation in "International Conference on Recent Trends in Agriculture, Environmental & Biosciences 2017", April 27 -29, 2017, Chandigarh, India.
16. Montpart N, Ribot E, **Garlapati VK**, Rago L, Baeza JA, Guisasola A., " Systematic development of anodic syntrophic consortia for bioelectrochemical hydrogen production from a wider range of carbon sources" Oral presentation in "4th International Microbial Fuel Cells Conference", 1-4 September 2013, Cairns, Queensland, Australia
17. Chauhan M and **Garlapati VK**., "Production of a novel Halo – Thermo - Solvent-Detergent tolerant Lipase by a newly isolated halophilic *Staphylococcus arlettae* in Submerged fermentation" poster presentation in "International Conference of Industrial Biotechnology, IX Convention of BRSI (ICIB -2012)", November 21 – 23, 2012, Punjabi University, Patiala, India.
18. **Garlapati VK** and Banerjee R., "Solvent-free Synthesis of Octyl Acetate by Transesterification Catalyzed by Immobilized Lipase", Oral presentation in "BioMicroWorld2011 - IV International Conference on Environmental, Industrial and Applied Microbiology", September 14-16, 2011, Torremolinos (Malaga), Spain.
19. **Garlapati VK**, Vundavilli PR and Banerjee R., "Integration of RSM Model for Optimization of Immobilized Lipase Mediated Solvent-free Synthesis of Flavour Ester by Genetic Algorithm" Poster presentation in "IEEE International Conference on *Image Information Processing* (ICIIP 2011)", November 3-5, 2011, Jaypee University of Information Technology (JUIT), Wanknaghat, HP- 173234, India.
20. **Garlapati VK** and Banerjee R., "Solvent – free Synthesis of Methyl Butyrate by Transesterification Catalyzed by Immobilized *Rhizopus oryzae* NRRL 3562 Lipase", Oral presentation in "5th International Congress on Biocatalysis", August 29- September 2, 2010, Hamburg, Germany.
21. Kant R, **Garlapati VK** and Banerjee R., "Lipase-catalyzed Production of biodiesel from vegetable and waste oils", presented in "ISFL 2008, 6th International symposium on Fuels and Lubricants", March, 9-12, 2008, New Delhi, India.

INVITED TALKS/ EXPERT LECTURES

-
1. Served as an "Invited External Examiner" for M.Sc and B.Sc Final Practical Exams, Banasthali Vidyapith, Tonk, Rajasthan, India.
 2. Given Invited Talk on " Bacterial cellulose from alternative cheap and waste resources: Cost-effective and sustainable avenues for polymer production" in "Advanced

- Entrepreneurship and Skill Development Program (E-SDP): Waste to Wealth, IIT Kharagpur, February 12 -16, 2024, Kharagpur, India.
3. Given Invited Talk on "Circular economy approach for sustainable solid waste management: Environmental sustainability, drivers and barriers from a developing economy perspective" in "Advanced Entrepreneurship and Skill Development Program (E-SDP): Waste to Wealth, IIT Kharagpur, February 12 -16, 2024, Kharagpur, India.
 4. Given Invited Talk on "Phycoremediation of X-ray developer solution towards silver removal using waste as a nutrient media of *Desmodesmus armatus*" in "International Symposium on Advances in Algal Research (AAR-2023), IIT Guwahati, June 12 -14, 2023, Guwahati, India.
 5. Given Expert talk on "Classification of Biofuels and Introduction to 2G Bioethanol" in Online Training Programme under the aegis of IDP-NAHEP organized by The Department of Renewable & Bioenergy Engineering, College of Agricultural Engineering & Technology, CCS HAU Hisar, January 2023, India.
 6. Given Expert talk on "Pretreatment Technologies" in Online Training Programme under the aegis of IDP-NAHEP organized by The Department of Renewable & Bioenergy Engineering, College of Agricultural Engineering & Technology, CCS HAU Hisar, January 2023, India.
 7. Given talk on "Research Activities towards UN Environmental SDG's" in Work shop on "Environment and Sustainability" organized by IIIT, Noida and JUIT, June 2022, Wazirpur, India.
 8. Given talk on "Research Activities towards UN Environmental SDG's" in Work shop on "Environment and Sustainability" organized by IIIT, Noida and JUIT, June 2022, Wazirpur, India.
 9. Given invited talk on "USP and DSP aspects of Biological Molecules: A special emphasis on Mab Production" in National Webinar on "Miraculous Tools Developed in Molecular Therapy and Reproduction", Organized by the Dept. Biotechnology and Microbiology, Vikram Sarabhai University, Nellore -524320, AP, India, on June 30, 2021.
 10. Given invited talk on "Conversion of Waste to Biofuels, Bioproducts and Bioenergy", in BECAR (Bioprocessing for Energy and Carbon from Agro Residues) 2018 work shop at School of Basic Sciences, Indian Institute of Technology, Mandi, HP-175005, India, from , Jan 23-Jan 24, 2018.
 11. Given invited talk on "Bioprocess Engineering aspects towards Biotechnological Products", in ICAEBS (International Conference on Recent Trends in Agriculture, Environment & Bio Sciences) 2018 at Chandigarh, Punjab-160002, India, from , Feb 22-Feb 24, 2018.







DISSERTATIONS GUIDED

-
- **PhD - 3** (Completed) +2 (Ongoing); **M.Tech/DD/MSc -11**; **B.Tech- 17**

COURSES TAUGHT /TEACHING

- | | |
|---------------------------------------------------|-------------------------------------|
| ➤ Bioprocess Engineering | Bioprocess Plant Design |
| ➤ Bioprocess Engineering & Technology | Bioprocess Modelling and Simulation |
| ➤ Traditional Bioprocesses and their upscaling | Industrial Biotechnology |
| ➤ Food Biotechnology | Downstream Processing |
| ➤ Manufacturing Processes and Industrial Products | Bioenergy and Biofuels |
| ➤ Food and Dairy Microbiology | Food and Agricultural Biotechnology |
| ➤ Sustainable Waste Management | Environmental Sciences |

MEMBERSHIP IN PROFESSIONAL SOCIETIES

-  Life member in Biotech Research Society of India (BRSI) (LM 1121)
-  Life member in Association of Microbiologists of India (AMI) (3142-2011)
-  Member in World Bioenergy Association (WBA)
-  Member in European Federation of Biotechnology (EFB)
-  Member in Asian Federation of Biotechnology (AFOB)(IN00779)
-  Member in American Chemical Society (ACS) (31174379)