



Harit Jha, M.Sc., Ph.D
Assistant Professor
Department of Biotechnology
Guru Ghasidas Vishwavidyalaya, Bilaspur
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Professional Overview

Assistant Professor, Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur (A Central University), since 2005

Academic Overview

PhD in Biochemistry from Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
M.Sc. (Biochemistry) Post Graduate Teaching Department of Biochemistry, Nagpur University, Nagpur

Achievements

Qualified SET Lecturership (Maharashtra), February 2002.

Qualified CSIR-UGC NET Lecturership, June 2002.

Projects sanctioned/completed

- Project Investigator, CCOST funded project worth 5.00 lakhs on “Lignocellulosic-poly (lactic acid) based composites for multifaceted applications” 2142/CCOST/MRP/2015. Two years
- Project Investigator funded project worth Rs 11.26 lakhs/- on “Application of Accacia and rice husk lignin in the synthesis of biopolymers, biofilms and resins”. Three years
- Group Leader, Microbial Technology, Under DBT BUILDER scheme, To Boost Interdisciplinary education & research in School of Life Sciences (Biotechnology, Botany, Zoology) DBT, Five years Rs 369.80 lakhs

- UGC funded project worth Rs 10, 04, 000/- (Co-PI) “Process optimization of conditions for extraction and purification of lignin from agro and forest wastes using Physico-chemical and biological approaches” UGC, Three years,
- Deputy Coordinator, UGC SAP II DRS I, worth 87.50 lakhs for Department of Biotechnology, Guru Ghasidas Vishwavidyalaya.

Selected Publications

Research Papers

1. Anand Barapatre & Harit Jha (2017): Degradation of alkali lignin by two ascomycetes and free radical scavenging activity of the products, *Biocatalysis and Biotransformation*, DOI: 10.1080/10242422.2017.1327953
2. A Barapatre, KR Aadil, H Jha (2017) Biodegradation of Malachite Green by the Ligninolytic Fungus *Aspergillus flavus* CLEAN–Soil, Air, Water DOI: 10.1002/clen.201600045
3. Aadil, D Prajapati, H Jha (2016) Improvement of physico-chemical and functional properties of alginate film by Acacia lignin Food Packaging and Shelf Life 10, 25-33
4. KR Aadil, H Jha (2016) Physico-chemical properties of lignin–alginate based films in the presence of different plasticizers. *Iranian Polymer Journal* DOI: 10.1007/s13726-016-0449-1
5. Barapatre A, H Aadil, KR and Jha H (2016) Synergistic antibacterial and antibiofilm activity of silver nanoparticles biosynthesized by lignin-degrading fungus. *Bioresources and Bioprocessing* 3(8), DOI10.1186/s40643-016-0083-y
6. Aadil KR, A Barapatre, AS Meena, H Jha (2016) Hydrogen peroxide sensing and cytotoxicity activity of Acacia lignin stabilized silver nanoparticles. *International Journal of Biological Macromolecules* 82, 39-47
7. Barapatre A, Meena AS, S Mekala, Das A, Jha H (2016) In vitro evaluation of antioxidant and cytotoxic activities of lignin fractions extracted from *Acacia nilotica* *International Journal of Biological Macromolecules* 86 (2016) 443–453
8. Aadil KR, Jha R, Jha H (2016) Synthesis, characterization and metal adsorption capacity of *Acacia* lignin based resin. *Asian Journal of Biological and Life Sciences* 5 (1): 40-45.
9. Barapatre A, Jha H (2016) Decolourization and biological treatment of pulp and paper mill effluent by lignin-degrading fungus *Aspergillus flavus* strain F10. *International Journal of Current Microbiology and Applied Sciences*.(2016)5(5): 19-32

10. Aadil KR, Barapatre A, Jha H (2016) Synthesis and characterization of *Acacia* lignin-gelatin film for its possible application in food packaging. *Bioresources and Bioprocessing* DOI 10.1186/s40643-016-0103-y
11. Aadil KR and Jha, H (2016) Influence of different plasticizers on the physico-chemical properties of lignin-alginate based films. *Iranian Polymer Journal* DOI 10.1007/s13726-016-0449-1
12. Kumari Shweta and Jha H (2016) Synthesis and characterization of crystalline carboxymethylated lignin-TEOS nanocomposites for metal adsorption and antibacterial activity. *Bioresources and Bioprocessing* DOI 10.1186/s40643-016-0107-7.
13. Kumari Shweta, Manupati K, Das A and Jha H (2016) Novel nanocomposite with selective antibacterial action and low cytotoxic effect on eukaryotic cells *International journal of biological macromolecules* 92, 988–997
14. Barapatre A, Aadil KR, Tiwary BN, Jha H (2015) In vitro antioxidant and antidiabetic activities of biomodified lignin from *Acacia nilotica* wood. *International journal of biological macromolecules* 75, 81-89
15. Shweta K and Jha H(2015) Rice husk extracted lignin-TEOS biocomposites: Effects of acetylation and silane surface treatments for application in nickel removal *Biotechnology Reports* 06/2015; 15. DOI: 10.1016/j.btre.2015.05.003, ISSN 2215-017X
16. Aadil KR, Barapatre A, Sahu S, Jha H, Tiwary BN (2014) Free radical scavenging activity and reducing power of *Acacia nilotica* wood lignin, *International Journal of Biological Macromolecules* (Elsevier) 67, 220–227 ISSN: 0141-8130 peer reviewed IF: 3.096
17. Jha H , Barapatre A, Prajapati M, Aadil KR and Senapati S (2013) Antimicrobial activity of rhizome of selected *Curcuma* variety. *International Journal of Life Sciences Biotechnology and Pharma* Vol. 2, No. 3, pp 183 -189
18. Jha H and Patil M (2013) Biopulping of sugarcane bagasse and decolorization of kraft liquor using laccase from *Klebsiella aerogenes* NCIM 2098. *Malaysian Journal of Microbiology*, 9(4) 2013, pp. 301-307
19. Barapatre A, Sahu S, Aadil K R and Jha, H (2013) Value added products from agrowaste *Recent Research in Science and Technology*, 5(2): 07-12 ISSN: 2076-5061
20. Aadil KR, Barapatre A, Rathore N and Jha H (2012) Comparative study of in-vitro antioxidant and antidiabetic activity of plant extracts of *Acacia arabica*, *Murrayakoeingii*, *Catharanthus roseus* and *Rouwolfia serpentina*. *International Journal of Phytomedicine* 4 (4) 543-551
21. Jha H and Patil MB (2011) Purification and characterization of Manganese peroxidase from *Penicillium oxalicum* isolate-1 *Romanian Biotechnology Letters* Vol. 16, No. 6, 6809-6819.

22. Sapre, M., Jha, H., Dhake, J.D. and Patil, M.B. (2006). Studies on production of thermostable alkaline cellulase-free xylanase by *S.racemosum*cohn with special reference to the effect of zeolites. Asian Journal of Microbiology, Biotechnology and Environmental Sciences, 8 (2), 323 – 327.
23. SapreMP, Jha H., Patil M.B. (2005). Purification and Characterization of a thermoalkalophilic xylanase from *Bacillus species*. World Journal of Microbiology and Biotechnology. 21, No.5, 649 – 654
24. Sapre MP, Jha H, Patil MB (2005). Purification and characterization of a thermostable cellulase free xylanase from *Syncephalastrum racemosum* cohn. Journal of General and Applied Microbiology. 51(6), 327 – 34.
25. Jha H, Syed SN, Parkhi V, Bhandarkar MR and Patil M (2005) Comparative Biochemical and RAPD – PCR fingerprinting analysis of ligninolytic fungi *Penicillium oxalicum* and *Phanerochaete chryosprium*. Asian Journal of Microbiology, Biotechnology and Environmental Sciences. 7(3), 569 – 575.
26. Jha, H., Sapre, M., Dhake, J.D. and Patil M.B (2002) Microbial pretreatment of sugarcane bagasse and its effect on paper properties. Asian Journal of Microbiology, Biotechnology and Environmental Sciences 4(1) 79-82.
27. Jha, H., Sapre, M., Dhake, J.D. and Patil M.B. (2002). Decolorization of black liquor by sequential treatment with *P. chryosprium* and *K. aerogenes*. Asian Journal of Microbiology, Biotechnology and Environmental Sciences Vol. 4 (4) 457-463.
28. Sapre, M., Jha, H., Dhake, J.D. and Patil, M.B. (2001) Use of biological agents for pulping and bleaching in pulp and paper industry. Indian Journal of Pulp and paper Technology, 14 (4): 5 – 7, 2002.
29. Jha, H., Sapre, M., Dhake, J.D. and Patil M.B. (1999 – 2000).Effect of metal ions on decolorization of black liquor by free and immobilized microorganism. Nagpur University Science Journal (10) 87 – 93.

Books

Jha, H., Barapatre, Anand (2016) Antioxidants: Source, Activity and Applications. ISBN 978-93-313-2823-6

Jha,H, Aadil, KR (2016) Lignocellulose based composites and biopolymers. ISBN 978-3-659-89712-2

Book Chapter

Jha H. (2009) Tannin: Structure, Synthesis and biodegradation, In: Ethnoforestry: The Future of IndianForestry, Ed S.C. Tiwari, Published by Bishen Singh Mahendra Pal Singh, Dehradun, India, 355-369

Reviewer

Reviewer for Material Science and Engineering (C), International Journal of Biological Macromolecules, Chemosphere, Romanian Journal of Biotechnology, Pharmaceutical Biology, Journal of Nanoparticle Research, Bioresources etc.

PhD Guidance**PhD Awarded**

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PhD in progress

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Administrative and Academic responsibilities

Several administrative responsibilities and cocurricular activities as member of various committees of University and other Institutions. Contributed to development of course and syllabus of B.Sc. (Honours) Biotechnology, Integrated UG/PG Biotechnology and Pre-PhD coursework as a faculty member and member of Board of Studies.