

CURRICULUM VITAE

PROF. PRATYOOSH SHUKLA,

Ph.D., D.Sc., FNAAS, FAMSc, FBRS

Professor & Coordinator, School of Biotechnology, Institute of Science

Coordinator, Centre for Bioinformatics, BTIS-Sub-DIC

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Former General Secretary, Association of Microbiologists of India (AMI) [2014-2020]

Lab web page: <http://medhaid.co/Dr-Pratyoosh-Shukla/>

Google scholar citation : (Citations: 8704; H-index: 53, i10 Index- 151)

https://scholar.google.co.in/citations?hl=en&user=MG9aCDUAAAAJ&view_op=list_works&sortby=pubdate

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<https://vidwan.inflibnet.ac.in/profile/58587>; <https://bhu.irins.org/profile/58587>

ResearchGate: https://www.researchgate.net/profile/Pratyoosh_Shukla

Profile: <https://loop.frontiersin.org/people/247259/overview>

RESEARCH INTERESTS: Enzyme Technology and Microbial Biotechnology; Protein Bioinformatics

EDUCATIONAL QUALIFICATIONS:

Degree	Year	Board/Univ.	Division	% age	Subjects
B.Sc.	1997	A.P.S. University. Rewa, M.P., India	1 st	75.0%	Botany, Zoology, Chemistry. Foundation Courses
M.Sc.*	1999	Dr. Hari Singh Gour University, Sagar, M.P. India	1 st	75.9%	Applied Microbiology and Biotechnology
Ph.D.	2002	A.P.S. University Rewa, M.P., India	Awarded		Microbiology
D.Sc.	2020	Barkatullah University, Bhopal, M.P. India	Awarded		Microbiology

**University Topper- Stood First in order of Merit*

ACADEMIC AND PROFESSIONAL APPOINTMENTS:

S. No.	Organization	From	To	Designation
1.	Dr. H.S.Gour University, Sagar (MP), India	July, 2000	June, 2002	Lecturer* *Contractual
2.	National Law University, Jodhpur, India	July 8, 2002	March 19, 2003	Astt Lecturer (Life Science)
3.	Birla Institute of Technology, (DEEMED UNIVERSITY) Mesra, Ranchi, India	March 21, 2003	September 30, 2005	Lecturer
3.	Birla Institute of Technology, (DEEMED UNIVERSITY) Mesra, Ranchi, India	October, 1, 2005	September, 18, 2007	Sr. Lecturer
4.	Birla Institute of Technology, (DEEMED UNIVERSITY) Mesra, Ranchi, India	Sept. 19, 2007 (w.e.f 01/06/07)	May 31, 2010	Reader
5.	Birla Institute of Technology, (DEEMED UNIVERSITY) Mesra, Ranchi	June 1, 2010	December 18, 2011	Associate Professor
6.	Maharshi Dayanand University, Rohtak, Haryana, India	December 19, 2011	May 31, 2013	Associate Professor & HOD
7.	Maharshi Dayanand University, Rohtak, Haryana, India	June 1, 2013	November 6, 2020	Professor & HOD
8.	Banaras Hindu University, Varanasi, India	November 7, 2020	Continuing	Professor
9.	Banaras Hindu University, Varanasi, India	May 19, 2022	Continuing	Professor & Coordinator

EXPERIENCE:

TEACHING [UG/PG]: 23 Years (2000-2023)

RESEARCH: 21 years (2002-2023) (post Ph.D.)

PUBLICATIONS:

- a. SCI Journals:226
- b. Book Chapters:36
- c. Edited Books /Books authored:09
- d. Journal special issue:04

OTHERS: 172

- e. Conference Proceedings/poster presentations (International):80
- f. Conference Proceedings /poster presentations (National):25
- g. Invited/Plenary Lectures/Expert talk/Resource Person:77
 - Cumulative career total Impact Factor (Thomson Reuters) -860+
 - No of SCI Publications in last 6 Years (2016-2023):146 (Avg IF- 5.181)
 - Total cumulative IF (7 Years) - 710+
 - Google Scholar Citations (as on 22nd February, 2023)-7901, H-Index- 51; i10 Index- 150

SCI (Peer Reviewed) Journals: (2007-2023)

2023

1. Dixit, M. & Shukla, P* (2023) Multi-efficient endoglucanase from *Aspergillus niger* MPS25 and its potential applications in saccharification of wheat straw and waste paper deinking. **Chemosphere**. <https://doi.org/10.1016/j.chemosphere.2022.137298> (Impact Factor: 8.8)
2. Usmani, Z., Gupta, V. K., Bajpai, V. K., & Shukla, P. (2023). Deciphering plant-microbiome interactions under abiotic stresses. **Environmental and Experimental Botany**, 105137. <https://doi.org/10.1016/j.envexpbot.2022.105137> (Impact Factor: 5.7)
3. Dixit, M., Chhabra, D., & Shukla, P*. (2023). Optimization of endoglucanase-lipase-amylase enzyme consortium from *Thermomyces lanuginosus* VAPS25 using Multi-Objective Genetic Algorithm and their bio-deinking applications. **Bioresource Technology**, 128467. <https://doi.org/10.1016/j.biortech.2022.128467> (Impact Factor: 11.4)
4. Jaiswal, S., Singh, D. K., & Shukla, P. (2023). Degradation effectiveness of hexachlorohexane (Y-HCH) by bacterial isolate *Bacillus cereus* SJPS-2, its gene annotation for bioremediation and comparison with *Pseudomonas putida* KT2440. **Environmental Pollution**, 318, 120867. (Impact Factor: 8.9)
5. Lu X, Hagemann M, Liu J, Shukla P and Tan X (2023) Editorial: Engineering microalgal chassis cells. **Front. Microbiol.** 14:1237999. doi: 10.3389/fmicb.2023.1237999 (Impact Factor: 5.2)
6. Dixit, M, Shukla, P. (2023) Analysis of endoglucanases production using metatranscriptomics and proteomics approach, **Advances in Protein Chemistry and Structural Biology**, Academic Press, <https://doi.org/10.1016/bs.apcsb.2023.04.005>; <https://www.sciencedirect.com/science/article/pii/S1876162323000639> (Impact Factor: 5.4)
7. Bongirwar, R., & Shukla, P. (2023). Metabolic sink engineering in cyanobacteria: perspectives and applications. **Bioresource Technology**, 128974. <https://doi.org/10.1016/j.biortech.2023.128974>. (Impact Factor: 11.4)
8. Singhvi, N., Gupta, V., Singh, Y., & Shukla, P. (2023). Computational Approaches for the Structure-Based Identification of Novel Inhibitors Targeting Nucleoid-Associated Proteins in *Mycobacterium Tuberculosis*. **Molecular Biotechnology**, 1-10. <https://doi.org/10.1007/s12033-023-00710-5> (ImpactFactor: 2.6)
9. Kumari, R., Singha, L. P., & Shukla, P. (2023). Biotechnological potential of microbial bio-surfactants, their significance and diverse applications. **FEMS microbes**, xtad015. <https://doi.org/10.1093/femsmc/xtad015>
10. Tyagi, S., Kar, S., Srivastava, A., & Shukla, P. (2023). Protein Engineering in Cyanobacterial Biotechnology: Tools and Recent Updates. **Current Protein & Peptide Science**.

<https://doi.org/10.2174/1389203724666230822100104> (ImpactFactor: 2.8)

11. Kumar, N., & Shukla, P. (2023). Microalgal-based bioremediation of emerging contaminants: Mechanisms and challenges. *Environmental Pollution*, 122591. <https://doi.org/10.1016/j.envpol.2023.122591>(ImpactFactor: 8.9)

2022

12. Dixit, M., Gupta, G.K., Pathak, P. , Bhardwaj N.K., Shukla,P* (2022) An efficient endoglucanase and lipase enzyme consortium (ELEC) for deinking of old newspaper and ultrastructural analysis of deinked pulp. *Biomass Conversion and Biorefinery* (2022). <https://doi.org/10.1007/s13399-022-03310-6> (Impact Factor: 4.050)
13. Jaiswal, S., Singh, D.K., Shukla, P*. (2023)Lindane bioremediation by *Paenibacillus dendritiformis* SJPS-4, its metabolic pathway analysis and functional gene annotation. *Environmental Technology & Innovation*, 27(102433), <https://doi.org/10.1016/j.eti.2022.102433>(Impact Factor: 7.758)
14. Kumar, N., Kar, S., & Shukla, P. (2022). Role of regulatory pathways and multi-omics approaches for carbon capture and mitigation in Cyanobacteria. *Bioresource Technology*, 128104. <https://doi.org/10.1016/j.biortech.2022.128104> (Impact Factor: 11.889)
15. Yadav, M., Sunita&Shukla, P*. (2022) Probiotic potential of *Weissella paramesenteroides* MYP5.1 isolated from customary dairy products and its therapeutic application. *3 Biotech* 12, 9. <https://doi.org/10.1007/s13205-021-03074-2> (Impact Factor: 2.893)
16. Chatterjee, G., Negi, S., Basu, S., Faintuch, J., O'Donovan, A., &Shukla, P*. (2022). Microbiome systems biology advancements for natural well-being. *Science of The Total Environment*, 155915.(Impact Factor: 10.753)
17. Kumar, N., Banerjee, C., Chang, J. S., & Shukla, P*. (2022). Valorization of wastewater through microalgae as a prospect for generation of biofuel and high-value products. *Journal of Cleaner Production*, 362: 132114. <https://doi.org/10.1016/j.jclepro.2022.132114> (Impact Factor: 11.072)
18. Dixit, M., Gupta, G. K., Yadav, M., Chhabra, D., Kapoor, R. K., Pathak, P., Bhardwaj, NK &Shukla, P*. (2022). Improved deinking and biobleaching efficiency of enzyme consortium from *Thermomyces lanuginosus* VAPS25 using Genetic Algorithm-Artificial Neural Network based tools. *Bioresource Technology*, 126846.<https://doi.org/10.1016/j.biortech.2022.126846>(Impact Factor: 11.889)
19. Pathania, R., Srivastava, A. Srivastava, S., Shukla, P*. (2022) Metabolic systems biology and multi-omics of cyanobacteria: perspectives and future directions, *Bioresource Technology*, 126007. <https://doi.org/10.1016/j.biortech.2021.126007> . (Impact Factor: 11.889)
20. Chakdar, H., Thapa, S., Srivastava, A., Shukla, P*. (2022) Genomic and proteomic insights into the heavy metal bioremediation by cyanobacteria, *Journal of Hazardous Materials*, 127609, <https://doi.org/10.1016/j.jhazmat.2021.127609>. (Impact Factor: 14.224)
21. Kalwani, M., Chakdar, H., Srivastava, A., Pabbi, S., Shukla, P.* (2022) Effects of nanofertilizers on soil and plant-associated microbial communities: Emerging trends and perspectives. *Chemosphere*,<https://doi.org/10.1016/j.chemosphere.2021.132107>(Impact Factor: 8.943)
22. Kumar, N., Banerjee C., Negi, S., Shukla, P*. (2022) Microalgae harvesting techniques: updates and recent technological interventions. *Critical Reviews in Biotechnology*. 1-27.<https://doi.org/10.1080/07388551.2022.2031089>(Impact Factor: 9.062)
23. Srivastava A, Shukla P*. (2022) Cyanobacterial Peptides: Metabolic Potential and Environmental Fate. *Protein and Peptide Letters*. DOI: 10.2174/0929866529666220314111105, (Impact Factor: 1.927)
24. Rastogi, M., Shrivastava, S., &Shukla, P. (2021) Bioprospecting of xylanase producing fungal strains: Multilocus phylogenetic analysis and enzyme activity profiling. *Journal of Basic Microbiology*, 62(2): 150-161<https://doi.org/10.1002/jobm.202100408> ((Impact Factor: 2. 650)
25. Khangwal I, Shukla, P*. (2022) A comparative analysis for the production of xylooligosaccharides via enzymatic hydrolysis from sugarcane bagasse and coconut coir. *Indian Journal of Microbiology*. DOI: 10.1007/s12088-022-01010-3 (Impact Factor-2.461)
26. Srivastava, A,Thapa, S., Babele, P.; Chakdar, H, Shukla, P*. (2022) Cyanobacterial myxoxanthophylls: biotechnological interventions and biological implications. *Critical Reviews in Biotechnology*. <https://doi.org/10.1080/07388551.2022.2117682> (Impact factor- 9.062)
27. Singha, L. P., &Shukla, P*. (2022). Microbiome engineering for bioremediation of emerging pollutants. *Bioprocess and Biosystems Engineering*, 1-17.<https://doi.org/10.1007/s00449-022-02777-x>(Impact factor-3.434)

2021

28. Srivastava, A., Shukla, P*. (2021) Emerging tools and strategies in cyanobacterial omics. *Trends in Biotechnology*. <https://doi.org/10.1016/j.tibtech.2021.05.004>(Impact Factor:21.942).
29. Kumar, P., Baig, M.K., Choudhury, K., Cucchiari, M., Madry, H and Shukla, P*. (2021) Tissue regeneration through cyber-physical systems and microbots. *Advanced Functional*

- Materials.<https://doi.org/10.1002/adfm.202009663>. (Impact Factor:21.870).
30. Sharma, B., & Shukla, P.* (2021). Lead bioaccumulation mediated by *Bacillus cereus* BPS-9 from an industrial waste contaminated site encoding heavy metal resistant genes and their transporters. DOI: <https://doi.org/10.1016/j.jhazmat.2020.123285>.(Impact Factor: 14.224).
 31. Sharma, B. & Shukla, P.* (2021). A comparative analysis of heavy metal bioaccumulation and functional gene annotation towards multiple metal resistant potential by *Ochrobactrum intermedium* BPS-20 and *Ochrobactrum ciceri* BPS-26. *Bioresource Technology* 320:124330., <https://doi.org/10.1016/j.biortech.2020.124330>(Impact Factor: 11.889)
 32. Ghosh A, Chandra A, Dhar A, Shukla, P*, Baishya D (2021) Multi-efficient thermostable endoxylanase from *Bacillus velezensis* AG20 and its production of xylooligosaccharides as efficient prebiotics with anticancer activity. *Process Biochemistry*. <https://doi.org/10.1016/j.procbio.2021.06.011>(Impact Factor: 4.885)
 33. Khangwal, I., Chhabra, D. & Shukla, P* (2021) Multi-Objective Optimization Through Machine Learning Modeling for Production of Xylooligosaccharides from Alkali-Pretreated Corn-Cob Xylan Via Enzymatic Hydrolysis. *Indian Journal of Microbiology*. <https://doi.org/10.1007/s12088-021-00970-2>. (Impact Factor- 2.461)
 34. Chaudhary, T., Yadav, D., Chhabra, D., Gera, R., Shukla, P.* (2021) Low-cost media engineering for phosphate and IAA production by *Kosakonia pseudosacchari* TCPS-4 using Multi-objective Genetic Algorithm (MOGA) statistical tool. *3 Biotech*. DOI: 10.1007/s13205-021-02690-2 (Impact Factor: 2.893)
 35. Saini, D. K., Rai, A., Devi, A., Pabbi, S., Chhabra, D., Chang, J. S., & Shukla, P*. (2021). A multi-objective hybrid machine learning approach-based optimization for enhanced biomass and bioactive phycobiliproteins production in *Nostoc* sp. CCC-403. *Bioresource Technology*, 329, 124908. <https://doi.org/10.1016/j.biortech.2021.124908> (Impact Factor: 11.889)
 36. Dixit, M., Panchal, K., Pandey D., Labrou, N.E., Shukla, P*. (2021) Robotics for enzyme technology: innovations and technological perspectives. *Applied Microbiology and Biotechnology*. DOI: 10.1007/s00253-021-11302-1.(Impact Factor: 5.560).
 37. Sunita, Singh, Y., Beamer, G, Sun, X. & Shukla, P*. (2021) Recent developments in systems biology and genetic engineering towards design of vaccines for TB, <https://doi.org/10.1080/07388551.2021.1951649>. *Critical Reviews in Biotechnology* (Impact factor- 9.062)
 38. Tyagi S., Kumar R., Kumar V., Won S.Y.*, Shukla, P.* (2021) Engineering disease resistant plants through CRISPR-Cas9 technology. *GM Crops & Food*, 12(1), 125-144. (Impact Factor: 3.118). DOI:10.1080/21645698.2020.1831729.
 39. Chaudhary, T., Gera, R., Shukla, P.* (2021) Emerging molecular tools for engineering phytomicrobiome. *Indian Journal of Microbiology*, (61)116–124. <https://doi.org/10.1007/s12088-020-00915-1>(Impact Factor-2.461)
 40. Mandeep, Liu, H., & Shukla, P. (2021). Synthetic Biology and Biocomputational Approaches for Improving Microbial Endoglucanases toward Their Innovative Applications. *ACS Omega*: 6 (9), 6055-6063, DOI: 10.1021/acsomega.0c05744. (Impact Factor: 4.132)
 41. Sharma, M., Bhat, R., Usmani, Z., McClements, D. J., Shukla, P., Raghavendra, V. B., & Gupta, V. K. (2021). Bio-Based Formulations for Sustainable Applications in Agri-Food-Pharma. *Biomolecules* 11(5), 768; <https://doi.org/10.3390/biom11050768>(Impact Factor: 6.064)
 42. Chandra, H., Sharma, K.K., Tuovinen, O.H., Sun, X., Shukla, P*. (2021) Pathobionts: mechanisms of survival, expansion, and interaction with host with a focus on *Clostridioides difficile*. *Gut Microbes*, <https://doi.org/10.1080/19490976.2021.1979882>(Impact Factor- 10.245)
 43. Dixit, M. Gupta, G.K., Usmani, Z., Sharma, M., Shukla, P*. (2021). Enhanced bioremediation of pulp effluents through improved enzymatic treatment strategies: A greener approach. *Renewable and Sustainable Energy Reviews*, 152, 111664. <https://doi.org/10.1016/j.rser.2021.111664>(Impact Factor- 16.799).
 44. Khangwal, I., Skariyachan, S., Niranjana V., Uttarkar A, Muddebihalkar A.G., Niranjana V. & Shukla, P*. (2021). Understanding the Xylooligosaccharides Utilization Mechanism of *Lactobacillus brevis* and *Bifidobacterium adolescentis*: Proteins Involved and Their Conformational Stabilities for Effectual Binding. *Molecular Biotechnology* DOI: 10.1007/s12033-021-00392-x (Impact Factor-2.860).
 45. Gupta, G.K., Dixit, M., Kapoor, R.K., Shukla, P*(2021). Xylanolytic enzymes in pulp and paper industry: new technologies and perspectives. *Molecular Biotechnology*. (Impact Factor-2.860).

2020

46. Shrivastava A., Varshney, R.K., Shukla, P*. (2020). Sigma Factor Modulation for Cyanobacterial Metabolic Engineering. *Trends in Microbiology*. <https://doi.org/10.1016/j.tim.2020.10.012>(Impact Factor: 17.079).
47. Chaudhary, T., Gera, R., Shukla, P.* (2020) Deciphering the potential of *Rhizobium pusunse* MB-17a, a plant

- growth-promoting root endophyte and functional annotation of the genes involved in metabolic pathway. *Frontiers in Bioengineering and Biotechnology* doi: 10.3389/fbioe.2020.617034, **(Impact Factor: 5.890)**.
48. Gupta, G.K. and **Shukla, P.*** (2020) Lignocellulosic biomass for the synthesis of nanocellulose and its eco-friendly advanced applications. *Frontiers in Chemistry* doi: 10.3389/fchem.2020.601256 **(Impact Factor: 5.221)**.
 49. Jaiswal, S., Gupta, G.K., Panchal, K., Mandeep, **Shukla, P.*** (2020) Synthetic organic compounds (SOCs) from paper industry wastes: integrated biotechnological interventions. *Frontiers in Bioengineering and Biotechnology* doi: 10.3389/fbioe.2020.592939, **(Impact Factor: 5.890)**
 50. Kumar, P., Sinha, R., & **Shukla, P.***. (2020). Artificial intelligence and synthetic biology approaches for human gut microbiome. *Critical Reviews in Food Science and Nutrition*, 1-19. **(Impact Factor: 11.176)**.
 51. Chakdar, H., Hasan, M., Pabbi S., Nevalainen, H., **Shukla, P.***. (2020) High-throughput proteomics and metabolomic studies guide re-engineering of metabolic pathways in eukaryotic microalgae: a review. *Bioresource Technology*, <https://doi.org/10.1016/j.biortech.2020.124495> **(Impact Factor: 9.642)**
 52. Sharma, B., & Shukla, P. (2020). Futuristic avenues of metabolic engineering techniques in bioremediation. *Biotechnology and Applied Biochemistry*. <http://dx.doi.org/10.1002/bab.2080> **(Impact Factor: 2.926)**.
 53. Shrivastava A., **Shukla, P.***. (2020). Tightening the Screws on PsbA in Cyanobacteria. *Trends in Genetics*. <https://doi.org/10.1016/j.tig.2020.08.018> **(Impact Factor: 11.639)**.
 54. Khangwal, I., Nath, S., Kango, N., **Shukla, P.*** (2020). Endo-xylanase induced xylooligosaccharide production from corn cobs, its structural features, and concentration-dependent antioxidant activities. *Biomass Conversion and Biorefinery* <https://doi.org/10.1007/s13399-020-00997-3>. **(Impact Factor: 4.987)**.
 55. Mandeep, **Shukla, P.***. (2020) Microbial nanotechnology for bioremediation of industrial wastewater. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2020.590631. **(Impact Factor: 5.640)**.
 56. Jaiswal S., Kumar, M., Mandeep, Sunita, Singh, Y., **Shukla, P.*** (2020) Systems biology approaches for therapeutics development against COVID-19. *Frontiers in Cellular and Infection Microbiology*, doi: 10.3389/fcimb.2020.560240. **(Impact Factor: 5.293)**.
 57. Hu, J., Liu, H., **Shukla, P.**, Lin, W., & Luo, J. (2020). Nitrogen and phosphorus removals by the agar-immobilized *Chlorella saccharophila* with long-term preservation at room temperature. *Chemosphere*, 126406. **(Impact Factor: 7.086)**.
 58. Mu, D., Liu, H., Lin, W., **Shukla, P.***, & Luo, J. (2020). Simultaneous biohydrogen production from dark fermentation of duckweed and waste utilization for microalgal lipid production. *Bioresource Technology*, 302, 122879. **(Impact Factor: 9.642)**
 59. Chaudhary, T., Dixit, M., Gera, R., Shukla, A.K. Prakash, A., Gupta, G. & **Shukla, P.***. (2020) Techniques for improving formulations of bioinoculants. *3 Biotech* 10, 199. <https://doi.org/10.1007/s13205-020-02182-9> **(Impact Factor: 2.406)**
 60. Saini, D. K., Yadav, D., Pabbi, S., Chhabra, D., & **Shukla, P.***. (2020). Phycobiliproteins from *Anabaena variabilis* CCC421 and its production enhancement strategies using combinatory evolutionary algorithm approach. *Bioresource Technology*, 123347. **(Impact Factor: 9.642)**
 61. Sunita, Sajid, A., Singh, Y., & **Shukla, P.***. (2020). Computational tools for modern vaccine development. *Human Vaccines & Immunotherapeutics*, 16(3), 723-735. **(Impact Factor: 3.452)**
 62. Sunita, Singhvi, N., Singh, Y., & **Shukla, P.***. (2020). Computational approaches in epitope design using DNA binding proteins as vaccine candidate in *Mycobacterium tuberculosis*. *Infection, Genetics and Evolution*. <https://doi.org/10.1016/j.meegid.2020.104357>. **(Impact Factor: 3.342)**
 63. Premetis G, Marugas P, Fanos G, Vlachakis D, Chronopoulou EG, Perperopoulou F, Dubey KK, **Shukla P**, Foudah AI, Muharram MM, Aldwsari MF (2020). The Interaction of the Microtubule Targeting Anticancer Drug Colchicine with Human Glutathione Transferases. *Current Pharmaceutical Design*. 26: 40, DOI: 10.2174/1381612826666200724154711. **(Impact Factor: 3.116)**.
 64. Jaiswal, S and **Shukla, P.***. (2020). Alternative strategies for microbial remediation of pollutants via synthetic biology. *Frontiers in Microbiology*, DOI: 10.3389/fmicb.2020.00808. **(Impact Factor: 5.640)**
 65. Mathibe B.N., Malgas S., Radosavljevic L., Kumar V., **Shukla P.***, Pletschke B.I.* (2020) Tryptic Mapping Based Structural Insights of Endo-1, 4-β-Xylanase from *Thermomyces lanuginosus* VAPS-24. *Indian Journal of Microbiology*, DOI: 10.1007/s12088-020-00879-2. **(Impact Factor: 2.461)**
 66. Tyagi, S., Lee, K. J., **Shukla, P.*** & Chae, J. C. (2020). Dimethyl disulfide exerts antifungal activity against *Sclerotinia minor* by damaging its membrane and induces systemic resistance in host plants. *Scientific reports*, 10(1), 1-12. **(Impact Factor: 4.379)**.
 67. Tyagi S., Kumar R., Das A., Won S.Y.*, **Shukla, P.*** (2020) CRISPR-Cas9 system: a genome-editing tool with endless possibilities. *Journal of Biotechnology*, 319: 36-53. DOI: <https://doi.org/10.1016/j.jbiotec.2020.05.008> **(Impact Factor: 3.307)**.
 68. Skariyachan, S., Khangwal, I., Niranjana V., Kango N. & **Shukla, P.***. (2020). Deciphering effectual binding potential of xylo-substrates towards xylose isomerase and xylokinase through molecular docking and molecular dynamic simulation. *Journal of Biomolecular Structure and Dynamics*, DOI:

10.1080/07391102.2020.1772882, (Impact Factor: 3.310).

69. Mathibe B.N., Malgas S., Radosavljevic L., Kumar V., **Shukla P.***, Pletschke B.I.* (2020) Lignocellulosic pretreatment-mediated phenolic by-products generation and their effect on the inhibition of endo-1,4- β -xyylanase from *Thermomyceslanuginosus* VAPS-24. 3Biotech, DOI: 10.1007/s13205-020-02343-w. (Impact Factor: 2.406)
70. Yadav, D., Garg R.K., Chhabra, D. Yadav R, Kumar A., **Shukla, P.***. (2020). Smart diagnostics devices through artificial intelligence and mechanobiological approaches. 3Biotech, DOI: 10.1007/s13205-020-02342-x. (Impact Factor: 2.406)
71. Adlakha, S., Chhabra, D., &**Shukla, P.***. (2020). Effectiveness of gamification for the rehabilitation of neurodegenerative disorders. Chaos, Solitons & Fractals, 140, 110192. (Impact Factor: 5.944).
72. Biswas K., Tarafdar A., Kumar R., Singhvi N., Ghosh P, Sharma M, Pabbi S and **Shukla, P.*** (2020) Molecular Analysis of Disease-Responsive Genes Revealing the Resistance Potential Against Fusarium Wilt (*Fusarium udum* Butler) Dependent on Genotype Variability in the Leguminous Crop Pigeonpea. Frontiers in Genetics 11:862. doi: 10.3389/fgene.2020.00862. (Impact Factor: 4.599)
73. Sharma B., **Shukla, P.***. (2020). Designing synthetic microbial communities for effectual bioremediation: a review. <https://doi.org/10.1080/10242422.2020.1813727>. Biocatalysis and Biotransformation. (Impact Factor: 2.181).
- 2019**
74. Mandeep, Gupta G.K., Liu, H., and **Shukla, P.*** (2019). Pulp and paper industry based pollutants, their health hazards and environmental risks." Current Opinion in Environmental Science & Health, 12: 48-56. <https://doi.org/10.1016/j.coesh.2019.09.010>.
75. **Shukla, P.*** (2019). Synthetic Biology Perspectives of Microbial Enzymes and Their Innovative Applications." Indian Journal of Microbiology, 1-9. DOI <https://doi.org/10.1007/s12088-019-00819-9> (Impact Factor:1.83).
76. Yadav, M. and **Shukla, P.*** (2019). Recent systems biology approaches for probiotics use in health aspects: a review. 3 Biotech 9:12: 448. (Impact Factor:1.786)
77. Jaiswal, S. Sharma, B., **Shukla, P.*** (2019) Integrated approaches in microbial degradation of plastics. Environmental Technology & Innovation. (Impact Factor:3.356)
78. Mandeep, Gupta G.K., **Shukla, P.*** (2019). Insights into the resources generation from pulp and paper industry wastes: challenges, perspectives and innovations. Bioresource Technology: 122496. (Impact Factor:7.539)
79. Verma, S., Sajid, A., Singh, Y.* & **Shukla, P.*** (2019) Computational tools for modern vaccine development. <https://doi.org/10.1080/21645515.2019.1670035>. Human Vaccines & Immunotherapeutics, (Impact Factor:2.619).
80. Yadav, M., and **Shukla, P.*** (2019) Efficient engineered probiotics using synthetic biology approaches: A review." <https://doi.org/10.1002/bab.1822> Biotechnology and Applied Biochemistry. (Impact factor: 1.638).
81. Mandeep, Sinha, R., and **Shukla, P.***. (2019) Protein Engineering for Improved Health: Technological Perspectives. Current Protein and Peptide Science 20, 9. (Impact Factor: 2.56)
82. Dhankhar, R., Kumar, A., Kumar, S., Chhabra, D., **Shukla, P.*** & Gulati, P*. (2019). Multilevel algorithms and evolutionary hybrid tools for enhanced production of arginine deiminase from *Pseudomonas furukawii* RS3. Bioresource Technology, 121789. (Impact Factor: 7.539)
83. Jaiswal, S., Singh, D.K. and **Shukla, P.*** (2019) Gene editing and systems biology tools for pesticide bioremediation: A review. Frontiers in Microbiology, 10. doi:10.3389/fmicb.2019.00087. (Impact Factor:4.019).
84. Srivastava, N., Srivastava, M., Malhotra, B.D., Gupta, V.K., Ramteke, P.W., Silva, R.N., **Shukla, P.**, Dubey, K.K. and Mishra, P.K., 2019. Nanoengineered cellulosic biohydrogen production via dark fermentation: A novel approach. Biotechnology advances. (Impact Factor:12.831)
85. Banerjee, A, Guria, C, Maiti, S.K., Banerjee, C. and **Shukla, P.***. (2019). Carbon bio-fixation, effect of physicochemical factors and carbon supply strategies by *Nannochloropsis* sp. Using flue gas and fertilizer. Biomass and Bioenergy 125: 95-104. (Impact Factor:3.551)
86. Khangwal, I., &**Shukla, P.*** (2019). Prospecting prebiotics, innovative evaluation methods, and their health applications: a review. 3 Biotech, 9(5), 187. (Impact Factor:1.852).
87. Kumar, S., Dang, A. K., **Shukla, P.***, Baishya, D., & Khare, S. K. (2019). Thermozymes: adaptive strategies and tools for their biotechnological applications. *Bioresource Technology*. 278: 372- 382 (Impact factor:7.539).
88. Khangwal, I., &**Shukla, P.*** (2019). Potential prebiotics and their transmission mechanisms: Recent approaches. Journal of Food and Drug Analysis. <https://doi.org/10.1016/j.jfda.2019.02.003>. (Impact Factor:4.727).
89. Khangwal, I., &**Shukla, P.***. (2019). Combinatory biotechnological intervention for gut microbiota. Applied Microbiology and Biotechnology. DOI <https://doi.org/10.1007/s00253-019-09727-w>. (Impact Factor: 3.53)
90. Saini, S., Chakdar, S., Pabbi, S. & **Shukla, P.***. (2019) Enhancing production of microalgal biopigments through

- metabolic and genetic engineering (DOI:10.1080/10408398.2018.1533518), Critical Reviews in Food Science and Nutrition. (Impact Factor:7.862).
91. Kumar, V., Kumar, A., Chhabra, D., &Shukla, P*. (2019). Improved biobleaching of mixed hardwood pulp and process optimization using novel GA-ANN and GA-ANFIS hybrid statistical tools. Bioresource technology, 271: 274-282 (Impact factor:7.539)
 92. Vashistha R., Kumar, P.,Dangi, A.K., Sharma, N., Chhabra, D.K.,Shukla P.*(2019) Quest for cardiovascular interventions: precise modeling and 3D printing of heart valves. Journal of Biological Engineering. DOI : 10.1186/s13036-018-0132-5.(Impact factor: 5.256)
 93. Kumar, M., Jaiswal, S., Kaur K.S., Shree P., Singh, D.K., Agrawal, P.K.,Shukla P.*(2019) Antibiotics bioremediation: Perspectives on its ecotoxicity and resistance. Environment International DOI: <https://doi.org/10.1016/j.envint.2018.12.065>.(Impact Factor: 7.943),
 94. Chaudhary, T., &Shukla, P*. (2019). Bioinoculants for Bioremediation Applications and Disease Resistance: Innovative Perspectives. Indian Journal of Microbiology, 1-8. (Impact Factor: 1.83).
 95. Sinha, R., and Shukla P*. (2019) Current Trends in Protein Engineering: Updates and Progress. Current Protein and Peptide Science 20, 5: 398-407. (Impact Factor: 2.52).

2018

96. Gupta, S.K.,Shukla, P.* (2018) Glycosylation control technologies for recombinant therapeutic proteins. DOI: 10.1007/s00253-018-9430-6 Applied Microbiology and Biotechnology. (Impact Factor:3.34)
97. Dangi, A.K, Sharma, B., Hill, R.T.,Shukla, P*. (2018) Bioremediation through microbes: systems biology and metabolic engineering approach. Critical Reviews in Biotechnology, doi.org/10.1080/07388551.2018.1500997. (Impact Factor:5.239)
98. Shukla, P*. (2018). 'Futuristic Protein Engineering: Developments and Avenues'. Current Protein and Peptide Science, 19(1), 3-4. (Impact factor:2.57)
99. Basu, S.,Rabara, R.C., Negi, S.,Shukla, P*. (2018) "Engineering of PGPMOs through gene editing and systems biology: solution for phytoremediation? Trends in Biotechnology, 36(5) 499-510 (Impact Factor:13.578).
100. Sharma, B., Dangi, A. K., &Shukla, P*. (2018). Contemporary enzyme based technologies for bioremediation: A review. Journal of environmental management, 210, 10-22. (Impact Factor: 4.010)
101. Yadav, R., K Singh, P., &Shukla, P*. (2018). Metabolic engineering for probiotics and their genome-wide expression profiling. Current Protein and Peptide Science, 19(1), 68-74. (Impact factor:2.57)
102. Basu, M., Kumar, V., &Shukla, P*. (2018). Recombinant Approaches for Microbial Xylanases: Recent Advances and Perspectives. Current Protein and Peptide Science, 19(1), 87-99. (Impact factor:2.57)
103. Kumar, V.,Dangi, A.K.,Shukla, P.* (2018) Engineering Thermostable Microbial Xylanases toward its Industrial Applications. Molecular Biotechnology, 1-10, (Impact Factor 1.634)
104. Liu, H., Sun, J., Chang, J. S., &Shukla, P*. (2018). Engineering microbes for direct fermentation of cellulose to bioethanol. Critical reviews in biotechnology, Pages 1-17. <https://doi.org/10.1080/07388551.2018.1452891>. (Impact Factor 6.542)
105. Tiwari, R. Nain, L,Labrou, N.E.&Shukla, P.* (2017) Bioprospecting of functional cellulases from metagenome for second generation biofuel production: A review. Critical Reviews in Microbiology. 44 (2), 244-257 (Impact factor- 8.19).
106. Banerjee, A., Banerjee, C., Negi, S., Chang, J. S., &Shukla, P*. (2018). Improvements in algal lipid production: a systems biology and gene editing approach. Critical Reviews in Biotechnology, 38 (3), 369-385. (Impact Factor6.542)
107. Jagadevan, S., Banerjee, A., Banerjee, C., Guria, C., Tiwari, R., Baweja, M., &Shukla, P*. (2018). Recent developments in synthetic biology and metabolic engineering in microalgae towards biofuel production. Biotechnology for biofuels, 11(1), 185. (Impact Factor:5.497)
108. Saini, D. K., Pabbi, S., &Shukla, P*. (2018). Cyanobacterial pigments: Perspectives and biotechnological approaches. Food and Chemical Toxicology. 120: 616-624. (Impact Factor: 3.997)
109. Vashistha, R., Dangi, A.K., Kumar, A. et al (2018) Futuristic biosensors for cardiac health care: an artificial intelligence approach <https://doi.org/10.1007/s13205-018-1368-y> . 8: 358. 3 Biotech (Impact factor:1.497)
110. Vashistha, R., Chhabra, D., & Shukla, P. (2018). Integrated Artificial Intelligence Approaches for Disease Diagnostics. Indian Journal of Microbiology, 58(2), 252-255. (Impact factor:1.34)
111. Dubey, K. K., Luke, G. A., Knox, C., Kumar, P., Pletschke, B. I., Singh, P. K., &Shukla, P*. (2018).Vaccine and antibody production in plants: developments and computational tools. Briefings in functional genomics. 17(5): 295–307, <https://doi.org/10.1093/bfpg/ely020>..(Impact Factor 3.783)
112. Dangi, A. K., Sharma, B., Khangwal, I., &Shukla, P*. (2018). Combinatorial Interactions of Biotic and Abiotic Stresses in Plants and Their Molecular Mechanisms: Systems Biology Approach. Molecular Biotechnology,60 (8), 636-650.(Impact factor 1.8)
113. Kumar, V.K.,Shukla, P.* (2018) Extracellular xylanase production from *T. lanuginosus*VAPS24 at pilot scale and thermostability enhancement by immobilization, Process Biochemistry,71, 53-60 (Impact factor

2.616)

114. Kumar, V., Singh, P. K., & Shukla, P. (2018) Thermostability and Substrate Specificity of GH-11 Xylanase from *Thermomyceslanuginosus*VAPS24. Indian Journal of Microbiology, 1-5. (Impact factor:1.34)
115. Dangi, A. K., Sinha, R., Dwivedi, S., Gupta, S. K., &Shukla, P.* (2018). Cell line techniques and gene editing tools for antibody production: A review. *Frontiers in pharmacology*, 9,630. (Impact Factor: 4.418)
116. Sinha, R., &Shukla, P*. (2018). Antimicrobial peptides: recent insights on biotechnological interventions and future perspectives. *Protein and Peptide Letters*. 26 (2), 79-87 (Impact Factor:1.031).
117. Tyagi, S., Mulla, S. I., Lee, K. J., Chae, J. C., &Shukla, P*. (2018). VOCs-mediated hormonal signaling and crosstalk with plant growth promoting microbes. *Critical reviews in Biotechnology*, 38(8), 1277-1296. (Impact Factor:5.239)
118. Yadav R, Kumar V., Baweja M., Shukla P*. (2018) Gene editing and genetic engineering approaches for advanced probiotics: A Review. *Critical reviews in food science and nutrition*, 58(10), 1735-1746.<http://dx.doi.org/10.1080/10408398.2016.1274877>. (Impact Factor6.202)

2017

119. Tiwari, R., Singh, P. K., Singh, S., Nain, P. K., Nain, L., &Shukla, P*. (2017). Bioprospecting of novel thermostable β -glucosidase from *Bacillus subtilis* RA10 and its application in biomass hydrolysis. *Biotechnology for Biofuels* 10 (1), 246. (Impact Factor5.203).
120. Dangi, A. K., Dubey, K. K., &Shukla, P*. (2017). Strategies to Improve *Saccharomyces cerevisiae*: Technological Advancements and Evolutionary Engineering. *Indian Journal of Microbiology*, 1- 9. (IF1.143).
121. Gupta, S.K., Shukla, P*. (2017) Sophisticated cloning, fermentation and purification technologies for an enhanced therapeutic protein production: A Review *Front. Pharmacol.* Doi: 10.3389/fphar.2017.00419. (Impact Factor: 4.418)
122. Gupta SK, Sharma A, Kushwaha H and Shukla P* (2017) Over-expression of a Codon Optimized Yeast Cytosolic Pyruvate Carboxylase (PYC2) in CHO Cells for an Augmented Lactate Metabolism. *Front. Pharmacol.* 8:463. Doi: 10.3389/fphar.2017.00463(Impact Factor: 4.418).
123. Gupta, S.K., Srivastava, S.K., Sharma, A., NalageV.H. , Salvi D., Kushwaha, H.,Chitnis, N.B.,Shukla, P.* (2017) Metabolic engineering of CHO cells for the development of a robust protein production platform. *PLOS ONE*. DOI: 10.1371/journal.pone.0181455. (Impact Factor: 2.740).
124. Kumar, VK, Chhabra, D.Shukla, P.* (2017) Xylanase production from *Thermomyceslanuginosus*VAPS-24 using low cost agro-industrial residues via hybrid optimization tools and its potential use for saccharification. *Bioresource Technology*, (Impact Factor5.651).
125. Singh,PK, Kumar,VK, Yadav, R. and Shukla, P*. (2017) Bioengineering for microbial inulinases: Trends and applications. *Current Protein & Peptide Science*, 18. DOI: 10.2174/1389203718666161122112251 (Impact Factor2.441)
126. Basu, M. Kumar, VK, Shukla, P*. (2017) Recombinant approaches for microbial xylanases: recent advances and perspectives. *Current protein & peptide science*, 18. DOI: 10.2174/1389203718666161122110200 (Impact Factor2.441)
127. Kashyap Kumar Dubey, Punit Kumar, Nikos E. Labrou, Pratyoosh Shukla (2017) Biotherapeutic potential and mechanisms of action of Colchicine. *Critical Reviews in Biotechnology*. 10.1080/07388551.2017.1303804. (Impact Factor7.510)
128. Nigam, V.K., Arfi, T., Kumar, V., Shukla, P.* (2017) Bioengineering of NitrilasesTowards Its Use as Green Catalyst: Applications and Perspectives. *Indian J Microbiol.* Doi:10.1007/s12088-017-0645-5. (Impact Factor1.143)
129. Dahiya DK, Renuka, Puniya M, Shandilya UK, Dhewa T, Kumar N, Kumar S, Puniya AK and Shukla P* (2017) Gut Microbiota Modulation and Its Relationship with Obesity Using Prebiotic Fibers and Probiotics: A Review. *Front. Microbiol.* 8:563. Doi: 10.3389/fmicb.2017.00563 (Impact Factor 4.165)
130. Roshan Kumar, Koushik Biswas, Puneet Kumar Singh, Pankaj Kumar Singh, S. Elumalai, Pratyoosh Shukla* and Sunil Pabbi (2017) Lipid production and molecular dynamics simulation for regulation of accD gene in cyanobacteria under different N and P regimes. *Biotechnology for Biofuels*. DOI: 10.1186/s13068-017-0776-2. (Impact Factor 6.444)
131. Sanjeev Kumar Gupta, Pratyoosh Shukla (2017) Gene editing for cell engineering: trends and applications. *Critical Reviews in Biotechnology*, 37:5, 672-684, <http://dx.doi.org/10.1080/07388551.2016.1214557> (Impact Factor-7.510)

2016

132. Jahangir Imam, Pratyoosh Shukla, Nimai Prasad Mandal and MukundVariar (2016). Microbial interactions in plants: Perspectives and applications of proteomics. *Current Protein & Peptide Science*, 18. DOI: 10.2174/1389203718666161122103731. (Impact factor2.8)
133. Ruby Yadav, Puneet Kumar Singh and Pratyoosh Shukla (2016) Metabolic Engineering for Probiotics and their Genome-Wide Expression Profiling. *Current protein & peptide science*, 18(12): 1-8. DOI:

- 10.2174/1389203718666161111130157. (Impact factor 2.8)
134. Yadav R, Singh PK, Puniya AK and Shukla P (2016). Catalytic interactions and molecular docking of bile salt hydrolase (BSH) from *L. plantarum* RYPR1 and its prebiotic utilization. *Front. Microbiol.* 7(2116):1-7. Doi: 10.3389/fmicb.2016.02116 (Impact factor 4.165)
135. Yadav R, Puniya AK and Shukla P (2016). Probiotic properties of *Lactobacillus plantarum* RYPR1 from an indigenous fermented beverage Raabadi. *Front. Microbiol.* 7(1683): 1-9. Doi: 10.3389/fmicb.2016.01683. (Impact factor 4.165)
136. Jahangir Imam, Nimai P. Mandal, Mukund Variar and Pratyosh Shukla (2016) Allele Mining and Selective Patterns of Pi9 Gene in a Set of Riceland races from India. 7(1846): 1-9. *Front. Plant Sci.*, doi.org/10.3389/fpls.2016.01846. (Impact factor 4.9)
137. J, Imam Singh PK and Shukla Pratyosh (2016). Plant microbe interactions in post genomic era: perspectives and applications. *Front. Microbiol.* 7(1488):1-15. Doi: 10.3389/fmicb.2016.01488. (IF 4.165)
138. Kumar Vishal, Baweja M, Singh PK and Shukla Pratyosh (2016). Recent developments in systems biology and metabolic engineering of plant microbe interactions. *Front. Plant Sci.* 7(1421):1-12. Doi: 10.3389/fpls.2016.01421 (Impact factor 4.9)
139. Vishal Kumar, Julia Marin-Navarro, Pratyosh Shukla (2016) Thermostable microbial xylanases for pulp and paper industries: trends, applications and further perspectives. *World J Microbiol Biotechnol.* 32(2):34: 1-10, 1-10 (DOI 10.1007/s11274-015-2005-0). (Impact factor- 1.779).
140. Banerjee Chiranjib, Singh, Puneet K., Shukla, P.* (2016) "Microalgal bioengineering for sustainable energy development: Recent transgenesis and metabolic engineering strategies. *Biotechnology journal* 11 (3), 303-314 (Impact factor- 3.78).
141. Sanjeev Kumar Gupta, Pratyosh Shukla* (2016) Bacterial platform technology for recombinant antibody fragment production: A review. *Critical Reviews in Microbiology.* 43(1):31-42. (Impact factor- 6.704).
142. Puneet Kumar Singh, Josmi Joseph, Sukriti Goyal, Abhinav Grover, Pratyosh Shukla* (2016) Functional analysis of the binding model of microbial inulinases using docking and molecular dynamics simulation. *Journal of Molecular Modeling*, 22(4), 1-7. DOI 10.1007/s00894-016-2935-y. (Impact factor- 1.736).
143. Banerjee, C., Dubey, K. K., & Shukla, P*. (2016). Metabolic engineering of microalgal based biofuel production: prospects and challenges. *Frontiers in Microbiology*, 7(432):1-8 <http://dx.doi.org/10.3389/fmicb.2016.00432>, (Impact factor- 4.165)
144. Mehak Baweja, Lata Nain, Yutaka Kawarabayasi, Pratyosh Shukla* (2016) Current Technological Improvements in Enzymes towards their biotechnological applications. *Frontiers in Microbiology* 7(965):1-13. <http://dx.doi.org/10.3389/fmicb.2016.00965>. (Impact factor- 4.165)
145. Baweja M, Tiwari R, Singh PK, Nain L and Shukla P (2016). An Alkaline Protease from *Bacillus pumilus* MP 27: Functional Analysis of its Binding Model towards its Applications as Detergent Additive. *Front. Microbiol.* 7(1195): 1-14. Electronic ISSN: 1664-302X. doi: 10.3389/fmicb.2016.01195. (Impact factor- 4.165)
146. Shrivastava, S., Kumar, V., Baweja, M., & Shukla, P*. (2016). Enhanced xylanase production from *Thermomyces lanuginosus* NCIM 1374/DSM 28966 using statistical analysis. *Journal of Pure and Applied Microbiology*, 10(3), 2225-2231. (Impact Factor: 0.073)

2015

147. Jahangir Imam, Shamshad Alam, Nimai Prasad Mandal, Pratyosh Shukla, Tilak Raj Sharma, Mukund Variar (2015). Molecular Identification and Virulence Analysis of AVR Genes in Rice Blast Pathogen, *Magnaporthe oryzae* from Eastern India. *Euphytica*, 206(1):21-31. (DOI: 10.1007/s10681-015-1465-5). (Impact Factor: 1.643)
148. Jahangir Imam, Shamshad Alam, Nimai Prasad Mandal, Dipankar Maiti, Mukund Variar Pratyosh Shukla (2015). Molecular Diversity and Mating Type Distribution of the Rice Blast Pathogen *Magnaporthe oryzae* in North-East and Eastern India. *Indian Journal of Microbiology*, 55(1): 108-113 (DOI 10.1007/s12088-014-0504-6): (Impact factor- 0.8.)
149. S. Karumuri, P.K. Singh, Pratyosh Shukla (2015) In Silico Analog Design for Terbinafine against *Trichophyton rubrum*: A Preliminary Study, *Indian Journal of Microbiology* (Springer), 55(3): 333-340. (DOI) 10.1007/s12088-015-0524-x. (Online first). (Impact factor- 0.8.)
150. Sanjeev Kumar Gupta, Pratyosh Shukla (2015) Advanced technologies for improved expression of recombinant proteins in bacteria: Perspectives and applications. *Critical Reviews in Biotechnology*, 36(6):1089-1098. DOI 10.3109/07388551.2015.1084264. (Impact factor- 7.89)
151. Nigam, V.K. and Shukla, P., (2015). Enzyme Based Biosensors for Detection of Environmental Pollutants-A Review. *Journal of microbiology and biotechnology*, 25(11):1773-81. (Impact Factor: 1.685)
152. Rameshwar Tiwari, Kumar Pranaw, Surender Singh, Pawan Nain, Pratyosh Shukla, Lata Nain (2015) Two step statistical optimization for cold active β -glucosidase production from *Pseudomonas lutea* BG8 and its application for improving saccharification of paddy straw. *Biotechnology and Applied Biochemistry*. 63(5):659-668 (Impact factor- 1.36.)

153. Gupta Pratibha, Balaji Raju, Parani M, Chandra T S, Shukla Pratyoosh, Kumar Anil, BandopadhyayRajib. (2015). Phylogenetic analysis and biological characteristic tests of marine bacteria isolated from Southern Ocean (Indian sector) water. *ActaOceanologicaSinica*, 34(8):73-82 doi: 10.1007/s13131-015-0000-0. (*Impact factor- 0.74*)
154. Yadav, Ruby, Pratyoosh Shukla (2015). An overview of advanced technologies for selection of probiotics and their expediency: A review. *Critical Reviews in Food Science and Nutrition*. DOI: 10.1080/10408398.2015.1108957. *Impact factor- 5.176*.
155. Puneet Kumar Singh, Pratyoosh Shukla (2015) Systems biology as an approach for deciphering microbial interactions. *Briefings in Functional Genomics*, Oxford Journals. DOI:10.1093/bfgp/elu023. 14 (2): 166-168. (*Impact Factor: 4.210*).

2014

156. Rameshwar Tiwari, Surender Singh, Pratyoosh Shukla, Lata Nain (2014). Novel cold active β -glucosidase from *Pseudomonas lutea* BG8 suitable for simultaneous saccharification and fermentation. *RSC Advances*, 4 (101), 58108 – 58115 10/2014; DOI: 10.1039/C4RA09784J. (*Impact Factor: 3.71*).
157. Chiranjib Banerjee, Sandipta Ghosh, Gautam Sen, Sumit Mishra, Pratyoosh Shukla, RajibBandopadhyay (2014) Study of algal biomass harvesting through cationic cassia gum, a natural plant based biopolymer. *Bioresource Technology*, 151: 6–11. <http://dx.doi.org/10.1016/j.biortech.2013.10.035>. (*Impact factor: 4.720*).
158. Pratyoosh Shukla (2014) 54th Annual Conference of Association of Microbiologists of India (AMI): A Report. *Indian Journal of Microbiology* (Springer). 54(2): 244–245. (DOI 10.1007/s12088-014-0465-9): (*Impact factor- 0.8*)
159. Jahangir Imam, ShamshadAlam, Nimai Prasad Mandal, DipankarMaiti, MukundVariar Pratyoosh Shukla (2014) Molecular Diversity and Mating Type distribution of the rice blast pathogen *Magnaportheoryzae* in North-East and Eastern India. 55(1):108–113 (DOI: 10.1007/s12088-014-0504-6). *Indian Journal of Microbiology*, (*Impact Factor: 0.8*)
160. Jahangir Imam, DewanandMahto, Nimai Prasad Mandal, DipankarMaiti, **Pratyoosh Shukla** MukundVariar (2014) Molecular Analysis of Indian Rice Germplasm Accessions with Resistance to Blast Pathogen. *Journal of Crop Improvement*, 28(6): 729- 739. DOI:10.1080/15427528.2014.921261.
161. Hanan Mahmood, TridishaGoswami, **Pratyoosh Shukla** (2014). An overview of quick-witted Vacuum Cleaner Tape Technique towards cataloguing Keratinophilic fungi from floor dust samples of student hostels. *Journal of Pure and Applied Microbiology*, 8 (5): 4177-80. (*Impact Factor:0.073*).
162. Chiranjib Banerjee, **Pratyoosh Shukla**, Ramesh Chandra and RajibBandopadhyay (2014). Biohydrogen production from algae: an overview. *Everyman's Science*, Indian Science Congress Association. XLIX, (2): 117-120.

2013

163. Shubhangi Goyal, Trisha Raj, Chiranjib Banerjee, Jahangir Imam, **Pratyoosh Shukla** (2013). Isolation and ecological screening of indigenous probiotic microorganisms from curd and chili sauce samples. *International Journal of Probiotics & Prebiotics*; May-Aug 2013, Vol. 8 Issue 2/3, p91.
164. C. Banerjee, S. Mishra, G. Sen, **Pratyoosh Shukla** and R. Bandopadhyay (2013). Study of algal biomass harvesting using cationic guar gum from the natural plant source as flocculant. *Carbohydrate Polymers*, 92: 675– 681. <http://dx.doi.org/10.1016/j.carbpol.2012.09.022>. (*Impact factor:3.6*).
165. Jahangir Imam, ShamshadAlam, Nimai Prasad Mandal, MukundVariar, **Pratyoosh Shukla** (2013). Molecular screening for identification of Blast Resistance Genes in North East and Eastern Indian Rice Germplasm (*Oryza sativa* L.) with PCR based makers. *Euphytica*, (Springer) 196(2):199-211. *Impact Factor:1.643*
166. Jahangir Imam, ShamshadAlam, MukundVariar, **Pratyoosh Shukla** (2013). Identification of Rice Blast Resistance Gene Pi9 from Indian Rice Land Races with STS Marker and its Verification by Virulence Analysis. *Proceeding of National Academy of Sciences, IndiaSection B: Biological Sciences*. 83: 4: 499-504. DOI 10.1007/s40011-013-0186-6, 2013. (*Impact Factor – 2.0*).

2012

167. ShripalVijayvargiya, **Pratyoosh Shukla** (2012). A niched Pareto genetic algorithm for finding variable length regulatory motifs in DNA sequences. *3Biotech* 2(2):141-148.
168. MVK Karthik, Hanan Syed, TridishaGoswami, **Pratyoosh Shukla** (2012) Model and molecular docking substrate stabilization of *Microsporiumcanis* keratinase, *Online Journal of Bioinformatics*, 13(1):33-40.
169. T.T. Ngwenya, **Pratyoosh Shukla**, N. Baboolal, K. Permaul, S. Singh (2012) An industrial perspective of factors affecting molasses fermentation by *Saccharomyces cerevisiae*. *Journal of Brewing and Distilling*, 3(2):23-28.
170. Z. Nofemele, **Pratyoosh Shukla**, A. Trussler, K. Permaul, S. Singh (2012) "Improvement of ethanol production from sugarcane molasses through enhanced nutrient supplementation using *Saccharomyces cerevisiae*. *Journal of Brewing and Distilling*, 3(2):29-35.
171. Puneet Singh, **Pratyoosh Shukla** (2012) 'A prelude report on molecular docking of HER2 protein towards comprehending anti-cancer properties of saponins from *Solanum tuberosum*. *Nature Precedings* (doi.org/10.1038/npre.2012.7147.1) ISSN1756-0357.

172. C. Banerjee, R. Bandopadhyay, **Pratyosh Shukla** (2012). A simple novel agar diffusion method for isolation of indigenous microalgae *Chlamydomonas* sp. CRP7 and *Chlorella* sp. CB4 from operational swampy top soil". Indian Journal of Microbiology (Springer) (DOI: 10.1007/s12088-012-0295-6): **Impactfactor-0.9**.
173. C. Banerjee, P. Gupta, S. Mishra, G. Sen, **Pratyosh Shukla** and R. Bandopadhyay (2012). Study of polyacrylamide grafted starch based algal flocculation towards applications in algal biomass harvesting International Journal of Biological Macromolecules, 51(4): 456- 461 (**Impact factor: 2.453**)<http://dx.doi.org/10.1016/j.ijbiomac.2012.06.011>
174. SmitaLata, SmritiShrivastava, **Pratyosh Shukla** (2012) An Insight on Recent Advances on Immobilization Methods for Industrial Enzymes and its Relevance to Xylanases. In: Rath CC (Ed) Microbiology. Dynamic Biochemistry, Process Biotechnology and Molecular Biology: 6(1): 57-61. (Dyn. Biochem. Process Biotech. Mol. Biol. Print: ISSN1749-0626).
175. M.V.K. Karthik, M.V.K.N. Satya Deepak, **Pratyosh Shukla** (2012). Explication of interactions between HMGCR isoform 2 and various statins through In silico modeling and docking. Computers in Biology and Medicine 42, (2): 156–163 doi:10.1016/j.compbimed.2011.11.003. **Impact factor:1.23**
176. MVK Karthik, **Pratyosh Shukla** (2012) Rational enzyme design towards substrate stabilization in family 11 xylanases from *Thermomyceslanuginosus*. Online Journal of Bioinformatics (OJB), 12(1):107-114.

2011

177. SmritiShrivastava, **Pratyosh Shukla**, KunalMukhopadhyay (2011) Purification and preliminary characterization of a xylanase from *Thermomyceslanuginosus* strain SS-8, 3Biotech 1(4):255-259.
178. **Pratyosh Shukla**, R. Bandopadhyay, V. Kumar (2011) A Report on the '51st Annual Conference of Association of Microbiologists of India (AMI) (December 14–17, 2010; Venue: Birla Institute of Technology, Mesra, Ranchi, India). Indian J Microbiol. 51(4): 537-538. DOI 10.1007/s12088-011-0235-x **Impactfactor-0.9**
179. Puneet Kumar Singh, **Pratyosh Shukla** (2011). Molecular modeling and docking of microbial inulinases towards perceptive enzyme-substrate interactions. Indian Journal of Microbiology 52(3): 373-380: **Impactfactor-0.9**.
180. Shrivastava, S., Poddar, R., Shukla, P.* and Mukhopadhyay, K. (2009) Study of codon bias perspective of fungal xylanase gene by multivariate analysis. Bioinformation.2009; 3(10): 425–429.
181. S. Shrivastava, **Pratyosh Shukla** and K. Mukhopadhyay (2008) Correlative characterization of changes in hyphal morphology during xylanase production in submerged culture by *Thermomyceslanuginosus*SS-8. Int. Journal of Microbiology, ISPUB, USA, 2008. Volume 4 Number2.
182. Zhang Meng, Pratyosh Shukla, M. Ayyachamy, K. Permaul, S. Singh (2009) Improved bioethanol production through simultaneous saccharification and fermentation of lignocellulosic agricultural wastes by *Kluyveromycesmarxianus* 6556. World Journal of Microbiology and Biotechnology, 26, (6):1041-1046. [DOI 10.1007/s11274-009-0267-0]. (**Impact factor-1.2**)
183. **Pratyosh Shukla**, D. Garai, Mohd. Zafar K. Gupta and S. Shrivastava (2008) Process Parameters Optimization for Lipase Production by *RhizopusOryzae*Kg-10 under Submerged Fermentation using Response Surface Methodology. J. Appl. Sci. Environ. Sanit. Sby. Vol: 2 (3):93-103.

2007

184. **Pratyosh Shukla** and Gupta K. (2007) Ecological Screening for lipolytic molds And Process Optimization for lipase production from *Rhizopusoryzae*KG-5. J. Appl. Sci. Environ. Sanit. Sby. Vol: 2, (2) 35-42,2007.
185. S. Shrivastava, **Pratyosh Shukla**, and R. Poddar (2007) In Silico Studies for Evaluating Conservation Homology among Family 11 Xylanases from *Thermomyceslanuginosus*. J. Appl. Sci. Environ. Sanit. Sby. Vol: 2,(2),70-76.

Book Chapters: (National & International)

1. **Pratyosh Shukla**, Naveen Kango and V. Bondre (2004). "Transfer of Drug Resistance plasmid with Km^r gene in *Vibrio Cholerae*KB 207" In: *Microbiology and Biotechnology for Sustainable Development*. (P.C. Jain, Ed.), CBS Publishers and Distributors, New Delhi. Pp. 277-282. ISBN-13: 9788123910871, ISBN-10: 8123910878.
2. **Pratyosh Shukla**, D. Garai and S. Shrivastava (2009). An overview of statistical optimization methods for microbial conversion of environmental samples for lipase production by hyperlipolytic fungi *Rhizopusoryzae*KG10. 171-180. In *Environmental Microbiology*, APH Publishers, New Delhi. ISBN-1081313065511;ISBN-13-9788131306550.
3. Neha Kumari, MVK Karthik, Puneet Singh, ShripalVijayvargiya, **Pratyosh Shukla** (2010) Molecular docking approaches for improvement in catalytic site binding of industrial chitinases from *Trichoderma harzianum*. In *Recent Trends in Microbial Biotechnology*, LAP Lambert Academic Publishing, Germany. (ISBN-10: 3843390029; ISBN-13:978-3843390026)
4. **Pratyosh Shukla**, RajibBandopadhyay and Rashmi. (2010). Development in social and legal issues in biotechnology: A comparative overview on the present scenario and future prospects of bioethics. In: *Biotechnology for sustainable Development: Achievements and Challenges*. Tata McGraw Hill Education Publishers, India. Pp. 239-244. ISBN13-978-0-07-070832-7.

5. S. Vijayvargiya and **PratyooSh Shukla** (2013) Microbial gene finding through identifying transcription factor bindingsites(TFBS)/In Applications of Microbial Genes in Enzyme Technology, V.K. Gupta and M. G. Tuohy (eds.), Nova Science Publishers, pp. 313-326 (ISBN: 978-1-62417-808-5)
[URL: https://www.novapublishers.com/catalog/product_info.php?products_id=39021]
6. PratyooSh Shukla, Vinod Nigam, Rishi Gupta, Ajay Singh, Ramesh ChanderKuhad (2013) Sustainable Enzyme Technology for Environment: Biosensors for Monitoring of Pollutants and Toxic Compounds. In Biotechnology for Environmental Management and Resource Recovery. Pp 69-76. (Eds. R.C. Kuhad, A. Singh). ISBN: 978-81-322-0875-4 (Print) 978-81-322-0876-1
[URL: <http://link.springer.com/book/10.1007%2F978-81-322-0876-1>]
7. Jahangir Imam, Puneet Kumar Singh and **PratyooSh Shukla** (2013) Biohydrogen as Biofuel: Future Prospects and Avenues for Improvements. In Biofuel Technologies, V. K. Gupta and M. G. Tuohy (eds.) DOI: 10.1007/978-3-642-34519-7_12, Springer-Verlag Berlin Heidelberg. ISBN 978-3-642-34519-7 (eBook); ISBN 978-3-642-34518-0(Hardcover)
[URL: <http://link.springer.com/book/10.1007%2F978-3-642-34519-7>]
8. Jahangir Imam, Mukund Variar, **PratyooSh Shukla** (2013). "Role of enzymes and proteins in plant- microbe interaction: a study of *M. oryzae* vs rice". In Shukla, PratyooSh; Pletschke, Brett I. (Eds.) Advances in Enzyme Biotechnology, Springer-Verlag Berlin Heidelberg. Pp 137-145. ISBN 978-81-322- 1094-8 (ebook); ISBN 978-81-322-1093-1(Hardcover)
[URL: <http://link.springer.com/book/10.1007%2F978-81-322-1094-8>]
9. Shripal Vijayvargiya and **PratyooSh Shukla** (2013) Regulatory motif identification in biological sequences: An overview of computational methodologies. In Shukla, PratyooSh; Pletschke, Brett I. (Eds.) Advances in Enzyme Biotechnology, Springer-Verlag Berlin Heidelberg. Pp 111-124. ISBN 978-81-322- 1094-8 (ebook); ISBN 978-81-322-1093-1(Hardcover)
[URL: <http://link.springer.com/book/10.1007%2F978-81-322-1094-8>]
10. Jahangir Imam, Mukesh Nitin, Neha Nancy Toppo, Nimai Prasad Mandal, Yogesh Kumar, Mukund Variar, Rajib Bandopadhyay, PratyooSh Shukla (2014) A Comprehensive Overview on Application of Bioinformatics and Computational Statistics in Rice Genomics Toward an Amalgamated Approach for Improving Acquaintance Base. In Agricultural Bioinformatics Kishor, P.B. Kavi, Bandyopadhyay, Rajib, Suravajhala, Prashanth (Eds.) Springer-Verlag. Pp 89-107. ISBN 978-81-322-1880-7 (ebook); ISBN 978- 81-322-1879-1 (Hardcover)
[URL: <http://www.springer.com/life+sciences/systems+biology+and+bioinformatics/book/978-81-322-1879-1>]
11. Puneet Kumar Singh, Jahangir Imam, PratyooSh Shukla (2014). *In-silico* approach in bioremediation, Microbial Biodegradation and Bioremediation. 12 In Microbial Biodegradation and Bioremediation, (Elsevier) 1st Edition (S. Das, Eds.). ISBN: 9780128000212.
[URL: <http://store.elsevier.com/Microbial-Biodegradation-and-Bioremediation/isbn-9780128000212>]
12. Kashyap Kumar Dubey, Punit Kumar, Puneet Kumar Singh, PratyooSh Shukla (2014). Exploring prospects of mono-oxygenases based bio-catalyst in xenobiotics and their computational modeling In Microbial Biodegradation and Bioremediation, (Elsevier) 1st Edition (S. Das, Eds.). ISBN :9780128000212.
[URL: <http://store.elsevier.com/Microbial-Biodegradation-and-Bioremediation/isbn-9780128000212>]
13. Chiranjib Banerjee, Harsh Kumar Agrawal, Puneet Kumar Singh, Rajib Bandopadhyay, PratyooSh Shukla (2016) proteomic approaches in microalgal research: challenges and opportunities, In Biotechnology: Progress and Applications (Hameed Saif Eds), Astral International. ISBN: 9789351247296.
14. Chiranjib Banerjee, Rajib Bandopadhyay, Puneet Kumar Singh, Harsh Kumar Agrawal, PratyooSh Shukla (2015) Innovations in microalgal harvesting using biopolymer based approach. In Microbial Factories, Biodiversity, Biopolymers, Bioactive Molecules: Volume 2 (Springer) (Kalia V.C., Eds.) (ISBN 978-81- 322-2594-2). [URL : <http://www.springer.com/in/book/9788132225942>]
15. Jahangir Imam, Mukund Variar, PratyooSh Shukla (2015) Advances in molecular mechanism towards understanding plant-microbe interaction: A study of *M. oryzae* vs rice. In Frontier Discoveries and Innovations in Interdisciplinary Microbiology. Springer-Verlag Berlin Heidelberg. (Shukla, P. Eds.) ISBN 978-81-322-2610-9 (ebook); ISBN 978-81-322-2609-3. Pp 79-96 [URL : http://link.springer.com/chapter/10.1007/978-81-322-2610-9_6]
16. Vishal Kumar, PratyooSh Shukla (2015) Functional Aspects of xylanases towards industrial applications. In Frontier Discoveries and Innovations in Interdisciplinary Microbiology. Springer-Verlag Berlin Heidelberg. (Shukla, P. Eds.) ISBN 978-81-322-2610-9 (ebook); ISBN 978-81-322-2609-3. Pp 157-165.
[URL : http://link.springer.com/chapter/10.1007/978-81-322-2610-9_9]
17. Mehak Baweja, Puneet Kumar Singh, PratyooSh Shukla (2015) Enzyme technology, functional proteomics and systems biology towards unraveling molecular basis for functionality and interactions in biotechnological processes. In Frontier Discoveries and Innovations in Interdisciplinary Microbiology. Springer-Verlag Berlin

- Heidelberg. (Shukla, P. Eds.) ISBN 978-81-322-2610-9 (ebook); ISBN 978-81- 322-2609-3. Pp 207-212. [URL:http://link.springer.com/chapter/10.1007/978-81-322-2610-9_13]
18. Pranjali Garg, Pratyosh Shukla (2015) Archaeology vis-à-vis microbiology: discovering the vistas of interdisciplinary research. *In* Frontier Discoveries and Innovations in Interdisciplinary Microbiology. Springer-Verlag Berlin Heidelberg. (Shukla, P. Eds.) ISBN 978-81-322-2610-9 (ebook); ISBN 978-81- 322-2609-3. Pp 213-219 . [URL:http://link.springer.com/chapter/10.1007/978-81-322-2610-9_14]
 19. Jahangir Imam, Nimai Prasad Mandal, Mukund Variar, Pratyosh Shukla (2015) Recent advances in proteomics approaches in understanding plant-microbe interactions Pp 55-70. *In* Plant-Microbe Interactions (Eds K. Ramasamy, K Kumar) New India Publishing Agency, ISBN 978-938-330-5834 (Hardcover)
 20. Ruby Yadav, Puneet Kumar Singh, Pratyosh Shukla (2016) Production of fructooligosaccharides as ingredient of probiotic applications: future scope and trends. *Microbial Biotechnology: An Interdisciplinary Approach*. CRC Press, Taylor and Francis Group. United States ISBN 9781498756778. (URL: <https://www.crcpress.com/Microbial-Biotechnology-An-Interdisciplinary-Approach/Shukla/p/book/9781498756778>]
 21. Yadav R., Shukla P. (2017) Probiotics for Human Health: Current Progress and Applications. *In*: Shukla P. (eds) Recent advances in Applied Microbiology. Springer, Singapore. Pp 133-147. DOI https://doi.org/10.1007/978-981-10-5275-0_6. Print ISBN 978-981-10-5274-3; Online ISBN 978-981- 10-5275-0. https://link.springer.com/chapter/10.1007/978-981-10-5275-0_6.
 22. Kumar V., Baweja M., Liu H., Shukla P. (2017) Microbial Enzyme Engineering: Applications and Perspectives. *In*: Shukla P. (eds) Recent advances in Applied Microbiology. Springer, Singapore, pp 259- 273. Print ISBN 978-981-10-5274-3; Online ISBN 978-981-10-5275-0. https://link.springer.com/chapter/10.1007/978-981-10-5275-0_6.
 23. Shrivastava, S., Shukla, P., Mukhopadhyay, K., & Varma, A. (2017). Continuous Elution Electrophoresis: A Unique Tool for Microbial Protein Analysis. *In*: Varma A., Sharma A. (eds) Modern Tools and Techniques to Understand Microbes. Springer, Cham. https://doi.org/10.1007/978-3-319-49197-4_14 .(Springer, Cham)
 24. Banerjee, A., Kumar, N., Varjani, S. J., Guria, C., Bandopadhyay, R., Shukla, P., & Banerjee, C. (2018). Computational Modelling and Prediction of Microalgae Growth Focused Towards Improved Lipid Production. *In* Biosynthetic Technology and Environmental Challenges (pp. 223-232). Springer, Singapore. https://link.springer.com/chapter/10.1007/978-981-10-7434-9_13
 25. Sanjeev K. Gupta, Arun K. Dangī, Shailja Dwivedi (2018) Effectual bioprocess development for protein production using Cell line engineering *In*: Shukla P. (eds) Applied Microbiology and Bioengineering, Academic Press, Elsevier, USA. ISBN:9780128154076. <https://www.sciencedirect.com/science/article/pii/B9780128154076000113>
 26. Dinesh Kumar Dahiya, Renuka, Arun Kumar Dangī, Umesh K. Shandilya, Anil Kumar Puniya, Pratyosh Shukla (2018) New-generation probiotics: perspectives and applications. *In*: J Faintuch, S. Faintuch (eds) Microbiome and Metabolome in Diagnosis, Therapy, and other Strategic Applications. Academic Press, Elsevier, USA. ISBN:9780128152492. <https://www.sciencedirect.com/science/article/pii/B9780128152492000440>
 27. R Vashistha, D Yadav, D Chhabra, P Shukla (2019). Artificial Intelligence Integration for Neurodegenerative Disorders Leveraging Biomedical and Healthcare Data, Semantics, Analytics and Knowledge *In*: Firas Kobeissy Kevin Wang Ali Alawieh Fadi Zaraket (eds) Academic Press, Elsevier, USA. ISBN: 9780128095560. Pp.77-89. <https://www.sciencedirect.com/science/article/pii/B9780128095560000058>
 28. Guddu Kumar Gupta, Rajeev K Kapoor, Pratyosh Shukla (2020) Advanced techniques for enzymatic and chemical bleaching for pulp and paper industries. *In*: Pratyosh Shukla (Eds), Microbial Enzymes and Biotechniques: Interdisciplinary Perspectives, Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-15-6895-4; Hardcover ISBN: 978-981-15-6894-7. <https://www.springer.com/gp/book/9789811568947>
 29. Twinkle Chaudhary, Pratyosh Shukla (2020) Commercial bioinoculant development: Techniques and challenges *In*: Pratyosh Shukla (Eds), Microbial Enzymes and Biotechniques: Interdisciplinary Perspectives, Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-15-6895-4; Hardcover ISBN: 978-981-15-6894-7. <https://www.springer.com/gp/book/9789811568947>
 30. Dinesh Kumar Saini, Sunil Pabbi, Pratyosh Shukla (2020) Recent advances in biosynthetic production of Biopigments from microalgae *In*: Pratyosh Shukla (Eds), Microbial Enzymes and Biotechniques: Interdisciplinary Perspectives, Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-15-6895-4; Hardcover ISBN: 978-981-15-6894-7. <https://www.springer.com/gp/book/9789811568947>
 31. Ishu Khangwal, Monika Yadav, Mandeep Dixit, Pratyosh Shukla (2020) Probiotics and prebiotics: Techniques used and its relevance. *In*: Pratyosh Shukla (Eds), Microbial Enzymes and Biotechniques: Interdisciplinary Perspectives, Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-15-6895-4; Hardcover ISBN: 978-981-15-6894-7. <https://www.springer.com/gp/book/9789811568947>
 32. Guddu Kumar Gupta, Mandeep Dixit, Pratyosh Shukla (2020) Enzyme engineering techniques for biotechnological applications *In*: Pratyosh Shukla (Eds), Microbial Enzymes and Biotechniques: Interdisciplinary Perspectives, Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-15-6895-4; Hardcover ISBN: 978-981-

- 15-6894-7. <https://www.springer.com/gp/book/9789811568947>.
33. Monika Yadav, Ishu Khangwal, Guddu Kumar Gupta, Pratyoosh Shukla (2020) Omics of lactic acid bacteria for fermented food production. In: Jorge Barros-Velázquez (Eds), Foodomics - Omic Strategies and Applications in Food Science. Royal Society of Chemistry, Cambridge, UK. (pp. 271-288) <https://doi.org/10.1039/9781839163005-00271>
 34. Punit Kumar, Sunita Verma, Kashyap Kumar Dubey, Pratyoosh Shukla (2021) Whole-Cell Vaccine Preparation: Options and Perspectives, In: Pfeifer, Blaine, Hill, Andrew (Eds.) Vaccine Delivery Technology: Methods and Protocols, Springer US, (pp. 249-266). Humana, New York, NY. ISBN: 978-1-07-160795-4, Hardcover ISBN: 978-1-07-160794-7. <https://www.springer.com/gp/book/9781071607947>
 35. Sharma, B., Chaudhary T., Shukla, P*. (2022) Combinatorial genetic engineering approaches in phytoremediation of pollutants. In Current Developments in Biotechnology and Bioengineering, Advances in Phytoremediation Technology (pp 55-71). <https://doi.org/10.1016/B978-0-323-99907-6.00001-3>
 36. Kalwani, M., Devi, A., Patil, K., Kumari, A., Dalvi, V., Malik, A., Shukla, P. & Pabbi, S. (2022). Microalgae-mediated wastewater treatment and enrichment of wastewater-cultivated biomass for biofuel production. In Expanding Horizon of Cyanobacterial Biology (pp. 259-281). Academic Press. <https://doi.org/10.1016/B978-0-323-91202-0.00014-2>
 37. Gupta, G. K., Pathak, G., Shukla, P., & Kapoor, R. K. (2023). Bioresources, environmental aspects, and patent scenario for biobleaching in pulp and paper industry. In *Microbial Bioprocesses* (pp. 299-318). Academic Press. <https://doi.org/10.1016/B978-0-323-95332-0.00004-1>
 38. Kumar, N., Kar, S., Srivastava, A., Banerjee, C., & Shukla, P. (2023). Algal genomics tools: technological updates and progress. In *Microbial Bioprocesses* (pp. 67-81). Academic Press. <https://doi.org/10.1016/B978-0-323-95332-0.00008-9>
 39. Chaudhary, T., & Shukla, P. (2023). Bioinoculants development for sustainable agriculture by innovative optimization processes: a future roadmap to commercialization. In *Microbial Bioprocesses* (pp. 107-119). Academic Press. <https://doi.org/10.1016/B978-0-323-95332-0.00007-7>
 40. Chaudhary, T., & Shukla, P. (2023). Bioinoculants development for sustainable agriculture by innovative optimization processes: a future roadmap to commercialization. In *Microbial Bioprocesses* (pp. 107-119). Academic Press. <https://doi.org/10.1016/B978-0-323-95332-0.00007-7>

Edited Books

1. **Pratyoosh Shukla (2022)** Microbial Bioprocesses: Applications and Perspectives, Elsevier Science, USA. ISBN: 9780323953320 <https://www.elsevier.com/books/microbial-bioprocesses/shukla/978-0-323-95332-0> (In Press)
2. **Pratyoosh Shukla (2020)** Microbial Enzymes and Biotechniques: Interdisciplinary Perspectives, Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-15-6895-4; Hardcover ISBN: 978-981-15-6894-7. <https://www.springer.com/gp/book/9789811568947>
3. **Pratyoosh Shukla (2019)** Applied Microbiology and Bioengineering, Academic Press, Elsevier, USA. ISBN: 9780128154076. <https://www.elsevier.com/books/applied-microbiology-and-bioengineering/shukla/978-0-12-815407-6#>
4. **Pratyoosh Shukla (2017)** Recent advances in Applied Microbiology (Springer Nature). ISBN 978-981-10-5275-0. <http://www.springer.com/us/book/9789811052743>.
5. **Pratyoosh Shukla (2016)** Microbial Biotechnology: An Interdisciplinary Approach. CRC Press, Taylor and Francis Group. United States ISBN 9781498756778. (URL: <https://www.crcpress.com/Microbial-Biotechnology-An-Interdisciplinary-Approach/Shukla/p/book/9781498756778>]
6. **Pratyoosh Shukla (2015)** Frontier Discoveries and Innovations in Interdisciplinary Microbiology. Springer-Verlag Berlin Heidelberg. ISBN 978-81-322-2610-9 (ebook); ISBN 978-81-322-2609-3 [URL: <http://www.springer.com/us/book/9788132226093>]
7. **Pratyoosh Shukla, MVK Karthik (2015)** Computational Approaches in *Chlamydomonas reinhardtii* for Effectual Biohydrogen Production. SpringerBriefs in Systems Biology, Springer-Verlag Berlin Heidelberg. ISBN 978-81-322-2383-2 (ebook); ISBN 978-81-322-2382-5 (Hardcover) (URL: <http://www.springer.com/in/book/9788132223825#aboutBook>]
8. **Pratyoosh Shukla and Pletschke, Brett I. (Eds.) (2013)** Advances in Enzyme Biotechnology, Springer-Verlag Berlin Heidelberg. ISBN 978-81-322-1094-8 (ebook); ISBN 978-81-322-1093-1 (Softcover) [URL: <http://link.springer.com/book/10.1007%2F978-81-322-1094-8>]
9. MVK Karthik, **Pratyoosh Shukla** (2012). Computational Strategies Towards Improved Protein Function Prophecy

of Xylanases from *Thermomyceslanuginosus*(SpringerBriefs in Systems Biology) Springer; 2012 Ed. [ISBN- 978-1-4614-4722-1] DOI:10.1007/978-1-4614-4723-8
[URL: <http://link.springer.com/book/10.1007%2F978-1-4614-4723-8>]

Journal Special Issue/ Conference Proceedings:

1. Shukla P., R.C. Kuhad, T. Satyanarayana (2011). Proceedings of the 51stAnnual International Conference of the Association of Microbiologists of India – Recent Trends in Cross-disciplinary Microbiology: Avenues and Challenges. 3Biotech (Springer), 1(4):187-272. (10articles)(**IF 3.446**)
[URL: <http://link.springer.com/journal/13205/1/4/page/1>]
2. Shukla, P., Bajpai, VK, Usmani, Z., Gupta, VK Deciphering plant-microbiome interactions under abiotic stresses, Environmental and Experimental Botany (**IF 6.028**)
<https://www.journals.elsevier.com/environmental-and-experimental-botany/call-for-papers/deciphering-plant-microbiome-interactions-under-abiotic-stresses>
3. Sharma, M.; Bhat, R.; Usmani, Z.; McClements, D.J.; Shukla, P.; Raghavendra, V.B.; Gupta, V.K. Biomolecules; Special Issue "Bioactive Formulations in Agri-Food-Pharma: Source and Applications". Biomolecules (MDPI), https://www.mdpi.com/journal/biomolecules/special_issues/bioactive_formulations_agri_food_pharma(**IF 6.064**)

Invited Talks/ Extension Lectures/Oral Presentations (National & International)

1. Pratyosh Shukla (2021). 'Microalgal biofuel production scenario: technological updates and progress revisited'. VI International Conference on "Sustainable Energy and Environmental Challenges" (VI SEEC) December 27-29, 2021 by International Society for Energy Environment & Sustainability (ISEES) at Lucknow, India (**Hybrid Mode**).
2. Pratyosh Shukla (2021). "Innovative bio-computational, genomics and combinatory evolutionary algorithm based tools for metabolites production from cyanobacteria". International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021), Annual Convention of BRSI, 1 – 4 December 2021, CSIR-Indian Institute of Petroleum, Dehradun, India, (**Online**)
3. Pratyosh Shukla (2021). 'Computational tools in Microbial biotechnology: future scope of interdisciplinary research'. Conference on Advances in Microbial Technologies-2021, Amity Institute of Microbial Technology, Amity University, Rajasthan, India. December 2, 2021 (**Online**)
4. Pratyosh Shukla (2021). "Exploring novel avenues in microbial bioremediation: role of computational tools". 6th Annual International Conference of Indian Network for Soil Contamination Research (INSCR) on "Microbes for Sustainable Development.", Organized by TERI, New Delhi & University of Delhi, November 15-18, 2021 (**Online**)
5. Pratyosh Shukla (2021). "Microbial bioremediation for futuristic avenues: newer technologies revisited". ICPPB-2021 (International Conference on Plant Physiology and Biotechnology) conference, September 10-12, 2021, Organized by School of Bioengineering and Biosciences, Lovely Professional University, Punjab, India. (**Online**)
6. Pratyosh Shukla (2021). "Microbial bioremediation through bio-computational tools: quick and futuristic approach". International conference on Bioengineering Solutions for Healthcare, Food, Energy, and Environment April 9-10, 2021: Indian Institute of Technology Jodhpur, India. (**Online**).
7. Pratyosh Shukla (2021). 'Bio-computational tools and microbial intervention for hazardous waste bioremediation'. India – Russia Scientific Webinar on Waste-to-Wealth - Resource Recovery and value-added products through thermo-chemical and biological processing, 10-11 March 2021, Organized by Russian Academy of Sciences, CSIR and Indian Embassy (Russia) (**Online**).
8. Pratyosh Shukla (2021). "Systems biology and metabolic engineering approaches in microbiology: futuristic areas" International Conference on Frontiers in Microbial Cell factories. February, 19, 2021. Hindusthan College of Arts and Science (Autonomous) Coimbatore, India. (**Online**).
9. Pratyosh Shukla (2021). "Futuristic bio-computational approaches towards understanding microbial bioremediation". 61st Annual International Conference of The Association of Microbiologists of India (AMI) and Indian Network for Soil Contamination Research (INSCR) on "Microbial World: Recent Developments in Health, Agriculture and Environmental Sciences", February 2-5, 2021, organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA), New Delhi, India (**Online**).
10. Pratyosh Shukla (2021). "Modern avenues of Enzyme Technology and Protein Bioinformatics". Refresher Course on Life Sciences on the theme 'Life Sciences and Biotechnology: Recent Trends, Advances and Challenges' January 30 2021, Centre for Professional Development in Higher Education (CPDHE), UGC-Human Resource Development Centre, University of Delhi, Delhi, India. (**Online**).
11. Pratyosh Shukla (2021). 'Computational microbiology for bioremediation: futuristic ideas and success stories'. Refresher Course – Environmental Studies on the theme entitled- "Best STM in Sustainable Development", 2nd February, 2021 organized by UGC – Human Resource Development Centre, SantGadge Baba Amravati University, Amravati, Maharashtra, India. (**Online**).
12. Pratyosh Shukla (2020). Futuristic ideas for bio-computational and systems biology approaches in microbial biotechnology. "International Conference on Recent Advances in Biotechnology, Bioinformatics and Bioinformatics (CONIAPS-2020)" 18-20th December 2020, Organized by Department of Molecular and Cellular Engineering, Jacob Institute of Biotechnology and Bioengineering, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj (Allahabad), (**Online**).
13. Pratyosh Shukla (2020). Computational approaches for microbial enzymes: ideas for future at the Postgraduate Webinar Series, 29th July, 2020, University of Brasília, Brasília, Brazil. (**Online**).
14. Pratyosh Shukla (2020). "Computational Approaches in Microbiology: Emerging Research Areas", International Webinar:

Microbial Bioactive Compounds: Perspectives and Future, September 2, 2020, Universidad Católica del Maule, Chile. **(Online).**

15. Pratyoosh Shukla (2020). "Systems Biology tools for Innovative Microbiology: Futuristic Approaches" Summer Training Programme in Biology (STPIB – 2020), 18th July 2020, Centre for Advanced Studies in Botany, University of Madras, Guindy Campus, Chennai, India. **(Online)**
16. Pratyoosh Shukla (2020). Microbes engineering for sustainable development: a systems biology and metabolic engineering approach. 23rd Punjab Science Congress, Punjab Academy of Science (PAS), 7-9 February 2020 at SantLongowal Institute of Engineering and Technology, Longowal. Punjab, India.
17. Pratyoosh Shukla (2020). Engineering the microbial interactions using systems biology and gene editing tools. National Seminar on "Recent advances in fungal diversity, plant-microbes interaction and disease management (RFPIDM)" during 28-29th February, 2020. Banaras Hindu University (BHU), Varanasi, U.P., India
18. Pratyoosh Shukla (2020). Innovations in enzyme engineering using systems biology and metabolic engineering. 4th International conference BioSangam 2020: Biotechnological Interventions for Societal Development February 21-23, 2020, Motilal Nehru National Institute of Technology, Allahabad, Prayagraj, India.
19. Pratyoosh Shukla (2019) Improving human health through computational approaches in probiotic interactions. National Conference on Recent Advances in Biotechnology: Innovations in Agriculture, Food-Tech and Human Health (BioMilaap-2019), November 5-6, 2019, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, India.
20. Pratyoosh Shukla (2019) Systems biology and metabolic engineering for microbes engineering. International Conference on New Horizons in Biotechnology (NHBT-2019), November 20-24, 2019 CSIR-National Institute for Interdisciplinary Science and Technology, Trivandrum, Kerala, INDIA & Biotech Research Society of India (BRSI) Trivandrum, Kerala, India
21. Pratyoosh Shukla (2019) Probiotics for human health: scope and avenues for innovative research, National Conference on Microbiome Research: Understanding the diversity to improve plant, animal, human and environmental health from March 7-9th, 2019. Uka Tarsadia University, Surat, Gujarat, India.
22. Pratyoosh Shukla (2019) Microbial enzyme engineering using computational approaches National Conference on "New Insights in Biological & Environmental Sciences (NIBES)-2019, May 24-25, 2019, Eternal University, Sirmour (HP), India.
23. Pratyoosh Shukla (2019) Computational tools and use of engineered microbes as innovative strategies in bioremediation. National Conference on Recent Trends in Solid Waste Management (NCRTSM – 2019), January 30-31, 2019, Department of Microbiology, Yashwantrao Chavan Institute of Science, Satara (Autonomous), India.
24. Pratyoosh Shukla (2018) Systems biology and metabolic engineering approaches for engineering microbes. INSCR International Conference 2018 (IIC 2018), 28th to 30th September 2018. This conference will be hosted by KIIT, Bhubaneswar, Odisha, India
25. Pratyoosh Shukla (2018) "Systems biology and gene editing tools for engineered microbial bioremediation: An innovative environmental clean up strategy" National symposium and workshop on waste management 3rd October, 2018 at Panjab University, Chandigarh, India.
26. Pratyoosh Shukla (2018) Probiotic microbial communities and their interactions, computational approaches and its impact on human health. 59th Annual Conference of Association of Microbiologists of India & International Symposium on Host-Pathogen Interactions. University of Hyderabad, Telangana, India December 9-12, 2018.
27. Pratyoosh Shukla (2018) Innovations in industrial biotechnology: systems biology and metabolic engineering for microbial enzymes. International Conference on Biotechnological Research and Innovation for Sustainable Development (BioSD-2018), the XV Convention of the Biotech Research Society, India, CSIR-Indian Institute of Chemical Technology, Hyderabad, India, November 22-25, 2018.
28. Pratyoosh Shukla (2018) "Microbial Biotechnology for innovative research and teaching". Faculty Development program on Bioinformatics Tools in Microbial Biotechnology, August 18, 2018. HRDG & Department of Biotechnology, Lovely Professional University, Punjab, India.
29. Pratyoosh Shukla (2018) "Synthetic microbiology, metabolic engineering and nanotechnology approaches for therapeutic enzymes and drug discovery". Faculty Development Program on Recent Advances in Nanotechnology for Sustainable World – 2018, DSI, Bangalore, June 19-26, 2018.
30. Pratyoosh Shukla (2018) "Computational modeling, Systems microbiology and novel platform design approaches for therapeutics: Revolution in medical diagnostics" South China University of Science & Technology, Guangzhou, China, June, 9-13, 2018
31. Pratyoosh Shukla (2018) An effectual bio-process development for the production of Xylanases and its application in paper industry ", South China University of Science & Technology, Guangzhou, China, June 9-13, 2018.
32. Pratyoosh Shukla (2018) Plant growth-promoting microorganisms (PGPMOs) for sustainable agriculture: systems biology and metabolic engineering approach. 4th National Conference on PGPR for sustainability of Agriculture and Environment. May 11-12, 2018, Department of Biotechnology, Mizoram University, Mizoram, India.
33. Pratyoosh Shukla (2018) Probiotics for human health: scope and avenues for innovative research. National workshop on "Hands on training on Molecular and Microbiological Techniques", March 9-10, 2018, Department of Botany and Microbiology, Gurukul Kangri University, Haridwar, India.
34. Pratyoosh Shukla (2018) Innovations in Life Sciences: systems biology and metabolic engineering for microbial enzymes. National Seminar on Challenges & Opportunities in Life Sciences, April 20, 2018, Centre for Life Sciences, Central University of Jharkhand, Ranchi, India.
35. Pratyoosh Shukla (2017) Metabolic engineering and systems biology for microbial enzymes: learning lessons towards innovation. 58th Annual Conference of Association of Microbiologists of India and international symposium on "Microbes for Sustainable Development: Scope and Applications (MSDSA- 2017)" November 16-19, 2017, Department of Environmental Microbiology, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India.
36. Pratyoosh Shukla (2017) Computational modeling, Systems microbiology and novel platform design approaches for

- therapeutics: Revolution in medical diagnostics. ICMR sponsored National Workshop on “Medical Lab Technology: Recent Advances in Lab Diagnostics”, Nov. 7, 2017. Department of Microbiology and Bioinformatics, Bilaspur University, Bilaspur(C.G.),India.
37. Pratyosh Shukla (2017) Synthetic and systems microbiology and metabolic engineering approaches for industrial enzymes. Biological Engineering in 21st Century, BESCON -2017, 8 - 9 September, 2017, Dept of Biotechnology, NSIT, Dwarka University of Delhi, Delhi.
 38. Pratyosh Shukla (2017) Harnessing microbial resources through systems microbiology and enzyme engineering. National Conference on ‘Microbial Resources, Bioenergy and Human Environment’ to August 10-11, 2017. Dept of Botany, Dr. Hari Singh Gour University (A Central University), Sagar, India.
 39. Pratyosh Shukla (2017) Computational approaches in probiotic interactions, novel platform designs and its impact on human health. INSCR International Conference (IIC-2017) on “Role of Microbe-Plant- Animal Interactions in Human Health”, September 26th-28th, 2017, Department of Zoology, University of Delhi and Indian Network for Soil Contamination Research in Delhi, India.
 40. Pratyosh Shukla (2017) Metabolic engineering and systems biology for microbial enzymes: learning lessons towards innovation 58th Annual Conference of Association of Microbiologists of India-2017 and international symposium on “Microbes for Sustainable Development: Scope and Applications (MSDSA- 2017)” “Scheduled during November 16-19, 2017 at Department of Environmental Microbiology, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India.
 41. Pratyosh Shukla (2016) Microbial Enzyme engineering using computational approaches: applications and prospects. 19th Biennial Congress of South African Society of Microbiology, January 17-20, 2016. Department of Biotechnology and Food Technology in the Faculty of Applied Sciences, Durban University of Technology, Durban, South Africa.
 42. Pratyosh Shukla (2015) Computational approaches in microbiology: An interactive facet of environmental enzymes for sustainable development. National Workshop on “Recent Trends in Environmental science and Carbon Management” November 19 - 20, 2015, Department of Environmental Sciences, Central University of Himachal Pradesh, Dharmashala, H.P. India.
 43. Pratyosh Shukla (2015) Microbial enzyme engineering *vis a vis* computational biology: An interactive approach. 56th Annual International conference of Association of Microbiologists of India (AMI) JNU, New Delhi, December 7 - 10, 2015.
 44. Pratyosh Shukla (2015) Interactive understanding of microbial processes and enzymes: How better we are? National conference on “Frontiers in Applied Biotechnology” from Dec. 22-23, 2015, Chandigarh University, Gharuan, Chandigarh, Punjab, India.
 45. Pratyosh Shukla (2015) Microbial Enzyme Engineering for Extremophiles using systems biology approach, National Conference on “Microbes in extreme environment: Diversity and Translational Applications” HNB Garhwal University, Srinagar, October 30-31, 2015.
 46. Pratyosh Shukla, Chiranjib Banerjee, Puneet Kumar Singh, Rajib Bandopadhyay (2015) Proteomic profiling and bio-harvesting approaches for microalgae based bio-fuel production. 2015 International Meeting of Microbiological Society of Korea (MSK-2015). Changwon, South Korea, April 15 - April 16, 2015.
 47. Pratyosh Shukla, Puneet Kumar Singh (2015). Scope and Applications of different facets of microbial protein bioinformatics in understanding microbial interactions and enzymes. 1 Day Invited Lecture at Chonbuk National University, Iksan, South Korea. April 17, 2015.
 48. Pratyosh Shukla (2015) ‘Microbial biotechnology through Computational approaches: New vistas and recent developments revisited’ Keynote speech, 2nd International Conference on Frontiers in Biological Sciences (InCoFIBS-2015), January, 22-24, 2015, NIT Rourkela, Orissa, India.
 49. Pratyosh Shukla (2015) Microbial Enzyme Engineering through Computational techniques: A New Era in Microbiology. National Conference on “Recent Trends in Microbial Biotechnology, February 26-28, 2015, Osmania University, Hyderabad, Telangana State, India.
 50. Pratyosh Shukla (2015) Fungal Bioinformatics- A snapshot of developing computational strategies for dermatophytes, National Symposium on “Mycological Research - Emerging Trends, Applications and Prospects and 41st Annual Meeting of Mycological Society of India”, February, 23-24, 2015, Department of Botany, Punjabi University, Patiala, India.
 51. Pratyosh Shukla (2015) Interdisciplinary areas in enzyme engineering by systems biology approaches: Techniques in microbial biotechnology, Lead Lecture at National conference on evolving trends in Biotechnology (NCETB-2015), March, 28-30 2015, Indian Science Congress Association (ISCA) Sagar Chapter, Dr. Hari Singh Gour Vishwavidyalaya (A Central University), Sagar (M.P.), India.
 52. Pratyosh Shukla (2015) Computational Biology in convergence to Microbiology: Scope and Applications in Microbial Biotechnology, Inauguration Programme of Gwalior Chapter of Association of Microbiologists of India (AMI), April 7, 2015, MITS, Gwalior, MP, India.
 53. Pratyosh Shukla (2014) Deciphering microbial interactions through computational strategies towards improved enzyme function prophecy. 55th Annual AMI Conference at Tamil Nadu Agricultural University, Coimbatore, November 12-14, 2014.
 54. Pratyosh Shukla (2014) Interface of Microbial enzymes and bioinformatics for sustainable soil reclamation. One day Seminar on “Entourage with Communicating Science” by Indian Network for Soil Contamination Research (INSCR), Association of Microbiologists of India (AMI) & American Society for Microbiology (ASM) 22nd September, 2014 at Department of Zoology, University of Delhi.
 55. Pratyosh Shukla (2014) Future applications of the functional facets of microbial enzymes through computational modeling: A state-of-the-art approach. National Conference on Contemporary Issues in

- Biotechnology: Progress and Future Applications, Amity University, Gurgaon, Haryana, April 2, 2014.
56. Pratyoosh Shukla (2014) Current Trends In Microbial Biotechnology Protein Bioinformatics New vistas in Microbial Biotechnology, Science Day Lecture Series, CCS Haryana Agricultural University, Hisar, Haryana, 28th February, 2014.
 57. Pratyoosh Shukla (2013) 'Exploring New Horizons in Microbial Biotechnology: Tools and applications of protein engineering and in silico enzyme modeling'. National Workshop on "Developing horizons in Microbiological tools and Techniques, Mata Gujri Mahila Mahavidyalaya, Jabalpur, Rani Durgawati Vishwavidyalaya, Jabalpur, MP (Sponsored by UGC, New Delhi), February, 20-21, 2013.
 58. Pratyoosh Shukla (2013) Employing microbiology and bioinformatics tools towards swift screening of industrial enzymes towards health and environmental protection. One Day Workshop on Role of Microbiology in Health and Environmental Protection, October, 23rd 2013. ITM University, Gwalior, MP.
 59. Pratyoosh Shukla (2013) Swift screening of industrial enzymes through computational protein engineering towards bridging microbiology and bioinformatics. International Conference on "Emerging Horizons in Biochemical Sciences And Nanomaterials" (EHBCSN-2013), 28-30 November 2013. Dept. of Microbiology, Shri Shivaji Mahavidyalaya, Barshi, Solapur University, India.
 60. Pratyoosh Shukla (2013) Environmental screening of industrial enzyme producing microorganisms for microbial diversity studies through computational protein engineering. UGC-MPCOST sponsored National workshop on 'Recent advances and significance of Microbial Biotechnology', Govt. TRS College, APS University, Rewa, December 28th, 2013.
 61. Pratyoosh Shukla (2013). 'Enzyme Technology and computational biology: An overview'. Department of Biotechnology, Motilal Nehru National Institute of Technology, Allahabad (UP) India. December, 31, 2013.
 62. Pratyoosh Shukla (2012) Microbial enzyme technology and role of computational strategies towards enhanced protein function prophecy of xylanases from *Thermomyces lanuginosus*. 53rd Annual AMI International Conference, KIIT University, Bhubaneswar, Orissa, November 22-25, 2012.
 63. Pratyoosh Shukla (2012) Environmental Awareness and Sustainable Development [Food Laws, Nutrition, Food Sciences including food microbiological protocols for Hotel industries]. Refresher course in Environmental Studies, UGC-Academic Staff College, BPS Mahila Vishwavidhyalya, Khanpur Kalan, Sonapat, Haryana. December 20, 2012
 64. Pratyoosh Shukla, R.C. Kuhad (2012) Production of oligosaccharides from lignocellulosics through carbohydrate active microbial enzymes from *T. Lanuginosus*. LIGNOBIOCON-2012, International Conference, December 12, 2012. University of Delhi South Campus, New Delhi, India
 65. Pratyoosh Shukla (2012). Biotechnological potential of utilizing complex microbial consortia for urban waste disposal: An effective tool of microbial biodegradation. Pre-conference workshop on 'Biotechnological approaches in urban green spaces management', March 5-7, 2012. International Congress on Urban Green Spaces, New Delhi. (Supported by DBT, UNESCO, Delhi Govt., Aravali Foundation for Education (AFE))
 66. Pratyoosh Shukla (2012) Microbial biodiversity of probiotic microorganisms: The future prospects and newer biotechnological solutions. National Seminar on Biodiversity: Issues and Challenges, 15-16 March 2012, The Living Blueprint Society, Government College, Gurgaon (Sponsored by Director General, Higher Education, Haryana).
 67. Pratyoosh Shukla (2011). Integrating computational enzyme design and structure based mutagenesis for enzyme engineering: Next frontier in microbial biotechnology. 52nd Annual International Conference of AMI and International Conference on Microbial biotechnology for Sustainable Development, November 3-6, 2011, Panjab University, Chandigarh.
 68. Pratyoosh Shukla (2011) Advances in microbial biotechnology: 'Enzyme Engineering through bioinformatics applications and structure based mutagenesis. DBT-MPCOST Hand's On Training on Microbial Biotechnology (October 30, 2011- November 13, 2011), Dr. H.S. Gour Central University, Sagar, MP. (November 11, 2011)
 69. Pratyoosh Shukla (2011) An Insight into potential applications of Biotechnological tools for understanding plant microbe interactions. Central Rainfed Upland Rice Research Station, Hazaribagh, ICAR, August 27, 2011.
 70. Pratyoosh Shukla, MVK Karthik (2011) Microbial enzyme engineering through protein modeling and docking. National Conference on Microbial Biotechnology, MICROCON-2011, January 11-12, 2011, Panjab University, Chandigarh, Punjab.
 71. Neha Kumari, MVK Karthik, Puneet Singh, Pratyoosh Shukla (2010). "Molecular docking of industrial chitinase from *Trichoderma harzianum*. September 4-5, 2010. International Conferences in Bioinformatics, KIIT University, Bhubaneswar, Orissa, India.
 72. Pratyoosh Shukla (2007). 'Resource Development in Environmental Education with special reference to Environmental Biotechnology: Career Prospects and Training opportunities'. National Teachers Science Conference 2007, National Council for Science and Technology Communication (NCSTC) DST, Govt of India. September 22-25, 2007 at Dehradun, Uttarakhand, India.
 73. Pratyoosh Shukla (2006). Human Resource Development in Biotechnology: Role of Training Opportunities in development of S & T Culture, National Seminar Towards A Scientific & Technological Culture, Khajuraho, MP, November 22-25, 2006, National Science Seminar 2006, National Council for Science and Technology Communication (NCSTC). (Awarded as Best Oral Presentation-Senior Category)
 74. Pratyoosh Shukla (2006) Medicinal plant Biotechnology in control of Dermatophyte infections: Role of Azadirachtaindica (Neem) Extracts. National Symposium on Medicinal Plants: Role of Biotechnology and Bioinformatics, BIT Mesra, Ranchi, India, August 3-5, 2006.
 75. Pratyoosh Shukla (2005). 'Fungal Community Diversity: The Future of Bioprospecting' (INVITED). Conference on Bioprocess Engineering & Biotechnology: Trends & Opportunities', 17-19 March 2005, BIT Mesra, Ranchi, India.
 76. Pratyoosh Shukla & M.K. Rout (2005) 'Structure Function Relationship of some Food Proteins. International Conference on Plant Genomics and Biotechnology: Challenges & Opportunities', 26-28 October 2005, IGAU, Raipur, INDIA.

77. Pratyosh Shukla (2004) 'Medical Biotechnology: Advances & Career opportunities.' National conference & Awareness Programme on 'Advances & Scope in Biotechnology Education'. BIT Mesra, Ranchi. India.

Expert Panel of R&D projects (Organization name, country and link)

S. No.	Organization Name	Country	Link/ Website
1.	Department of Biotechnology (DBT), Govt. of India	India	http://dbtindia.gov.in/
2.	SERB, Science and Engineering Research Board, India	India	www.serb.gov.in
3.	BIRAC, DBT, INDIA	India	www.birac.nic.in
4.	BARD - Binational Agricultural Research and Development Fund US-Israel	Israel	https://www.bard-isus.com/
5.	National Research Foundation, South Africa	South Africa	https://www.nrf.ac.za/
6.	Research Committee of the University "Forotalico" of Rome, Italy	Italy	http://www.uniroma4.it/
7.	Chilean National Science and Technology Commission (CONICYT - Chile)	Chile	http://www.conicyt.cl
8.	Newton Fund, UK-Malaysia Joint Partnership on Non-Communicable Diseases, UKRI MRC	UK	www.mrc.ukri.org
9.	CQDM - Consortium de recherchebiopharmaceutique, Canada	Canada	https://cqdm.org/en/
10.	Netherlands Organisation for Scientific Research (NWO)	Netherlands	http://www.isaac.nwo.nl/
11.	The research council (TRC)	Oman	https://www.trc.gov.om/trcweb/
12.	Indo-French Centre for the Promotion of Advanced Research, DST, India	India & France	http://www.cefipra.org/#footer
13.	Ministry of Science & Technology The State of Israel (MOST)- Israel	Israel	most.gov.il
14.	National Science Centre, Poland	Poland	http://www.ncn.gov.pl
15.	The Italian Ministry for universities and research (MUR)	Italy	mur.gov.it

Post-Doctoral Students

S. No.	Name of Student & Title of Project	Funding Agency & Total Budget	Funding amount	Duration
1.	Dr. L. PaikhombaSingha SERB-National Post-Doctoral Fellow (SERB-NPDF) Title of Project' "Metabolomics and transcriptomics based analysis for congenial syncom and development of EDS (effective delivery system) for the in-situ rhizoremediation of crude oil". (PDF/2021/000223) (Mentor)	SERB, DST, Govt. of India	22 Lakhs	2 years (2022-2024)
2	Dr. Niwas Kumar SERB-National Post-Doctoral Fellow (SERB-NPDF) Title of Project' 'Microbial derived biopolymers for harvesting and valorization of microalgal biomass as sustainable feedstock for nutraceuticals and bioactive compounds'' (PDF/2022/000561) (Mentor)	SERB, DST, Govt. of India	21. 31 Lakhs	2 years (2022-2024)

Ph.D. Guidance: 22 (Twenty Two)AWARDED: 19, ONGOING: 6

S.No.	Name of Student	Status	Title of Thesis
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1.	Mr. Raju Poddar (As Co-guide)	Awarded (2009)	Noninvasive Measurement of Blood Glucose Level using Optical Coherence Tomography”
2.	Mr. Shripal Vijayvargiya	Awarded (2012)	Computational Techniques for Gene prediction through identifying regulatory Transcription Factor Binding Sites (TFBS) in Biological Sequences.”
3.	Ms. Smriti Shrivastava	Awarded (2011)	Thermozymes: Production and characterization of High level Cellulase-free Xylanases from the Thermophilic fungi with special reference to <i>Thermomyces lanuginosus</i>
4.	Mr. Chiranjib Banerjee (As Co-Guide)	Awarded (2013)	Molecular characterization and identification of novel hydrogen producing algae and exploiting their biotechnological potential
5.	Mr. Jahangir Imam	Awarded (2016)	Understanding plant fungus interactions in relation to pathogenic variation in <i>Magnaporthe grisea</i> and diversity at Pi9 locus in rice (<i>Oryza sativa</i> L)
6.	Mr. Rameshwar Tiwari	Awarded (2016)	Bioprospecting of B-glucosidase from diverse environmental niches by culturable and unculturable approaches
7.	Mr. Puneet Kumar Singh	Awarded (2016)	Characterization of microbial inulinases from soil fungi and escalation of their catalytic properties through enzyme modeling and docking.
8.	Mr. Sanjeev Kumar Gupta	Awarded (2016)	Microbial protein engineering approaches towards deciphering the effect of co-expression of pyruvate carboxylase in production of recombinant bio-therapeutic proteins.
9.	Ms. Mehak Baweja	Awarded (2016)	Exploring biotechnological potential of microbial proteases: Isolation and characterization of proteases from southern ocean samples and their applications.
10.	Ms Ruby Yadav	Awarded (2016)	Isolation and characterization of indigenous probiotic microorganisms from conventional fermented food products and deciphering their probiotic potential
11.	Mr. Vishal Kumar	Awarded (2018)	An effectual bio-process development for the production of Xylanases from <i>Thermomyces lanuginosus</i> and its applications in pulp and paper industry
12.	Ms. Ishu Khanagwal	Awarded (2021)	Production, characterization and evaluation of xylooligosaccharides towards its use in prebiotic applications
13.	Ms. Babita Sharma	Awarded (2021)	Enzymatic bioremediation studies on microorganisms isolated from industrial soils and their biotechnological potential
14.	Mr. Dinesh K. Saini	Awarded (2021)	Bioprospecting of cyanobacteria for high value biopigments and optimization for their enhanced production
15.	Ms. Twinkle	Awarded (2021)	Isolation, molecular characterization and enzymatic potential of root nodule bacteria towards improving performance of bioinoculants
16.	Ms. Sunita Verma	Awarded (2021)	Identification and characterization of novel NAP (Nucleoid associated protein) Rv1985c from <i>Mycobacterium tuberculosis</i> and its role in survival and pathogenesis.
17.	Ms. Monika Yadav	Awarded (2021)	Evaluation of probiotic capabilities in customary dairy products and its metabolic significance
18.	Ms. Shweta Jaiswal	Awarded (2022)	Molecular characterization of Lindane degrading bacteria and their functional gene annotation for bioremediation
19.	Mr. Mandeep Dixit	Awarded (2022)	Microbial Endoglucanases from thermophilic fungi: Production, characterization and bio-computational studies
20.	Mr. Mohneesh Kalwani	Ongoing	Microalgae mediated wastewater treatment with metabolic profiling in response to heavy metal stress and microalgal biomass valorization for bioenergy production
21.	Ms. Srabani Kar	Ongoing	Genomic analysis and metabolic significance of biotechnologically important ribonucleases in Cyanobacteria
22.	Mr. Aditya Sharma	Ongoing	Elucidating the role of drought resistant rhizobacteria in modulating the rhizobacterial communities using genomic and metabolomic tools.
23.	Ms. Namrata Bhagat	Ongoing	Molecular Analysis of stress responsive genes in <i>Synechocystis</i> sp. PCC 6803
24.	Ms. Deepali Tiwari	Ongoing	Molecular analysis of transcriptional response in <i>Synechococcus</i> sp. PCC 11901
25.	Ms. Riya Bongirwar	Ongoing	Characterization of the regulatory networks of alternative sigma factors in <i>Synechococcus</i> sp. PCC 11901 for the development of sustainable bioproduction host

MEMBERSHIP OF SCIENTIFIC OR PROFESSIONAL BODIES

- Life Member, "Indian Science Congress Association(ISCA)".
- LifeMember,"IndiaSocietyforTechnicalEducation(ISTE)"
- Life Member, Mycological Society of India (MSI)
- Member, Asian Federation of Biotechnology(AFoB)
- Life Member, Biotech Research Society of India(BRSI)
- Life Member, ADNAT, CCMB,Hyderabad.
- Member, American Society on Microbiology(ASM)
- Life Member, "Association of Microbiologists of India(AMI)".
- Member, " European Federation of Biotechnology (EFB)"
- Member, The GenomeWeb Intelligence Network genomics tools and technology. (<http://www.genomeweb.com>)

MEMBER AS EDITORIAL BOARD/EDITOR OF JOURNALS/ SCIENTIFIC SOCIETIES

- Editor, Nature Scientific Reports
- Associate Editor, Frontiers in Microbiology,
- Review Editor, Frontiers in Bioengineering and Biotechnology, Frontiers in Environmental Science
- Guest Editor, Biomolecules Special Issue "Bioactive Formulations in Agri-Food-Pharma: Source and Applications" https://www.mdpi.com/journal/biomolecules/special_issues/bioactive_formulations_agri_food_pharma
- Associate Editor, BMC Microbiology,
- Associate Editor (3Biotech-Springer), Academic Editor (PLOSOne)
- Editorial Board Member, The Open Microalgae Biotechnology (Bentham Science)
- Editor, Indian Journal of Microbiology(Springer), Guest Editor, Current Protein and Peptide Science (Bentham Science)
- Editorial Board Member, Protein and Peptide Letters(Bentham Science)
- Editor-in-Chief, Journal of Microbiology, Internet Scientific Publishers, USA (2007-2009)
- Secretary, Association of Microbiologists of India, Ranchi Unit, Jharkhand Chapter(2007-2011)., President, Association of Microbiologists of India, Rohtak Unit., Member, National Executive Council of Association of Microbiologists of India.(2007-2014)
- Former General Secretary, Association of Microbiologists of India (AMI) (2014-2020)
- Member, National Executive Council of Mycological Society of India(MSI)

AWARDS AND SCIENTIFIC RECOGNITION

- Most Productive Researcher Award, BHU, Varanasi (2022)
- Fellow, National Academy of Agricultural Sciences (FNAAS)[2020]
- **Featured among a list of Indian Researchers who were Top 2% in 2019, 2020, 2021 –Stanford Study.**
- Fellow, Biotech Research Society of India (FBRS)[2018]
- Faculty Research Award: Top 10 "Most outstanding Researchers" in the field of Immunology and Microbiology(2018)
- Fellow, Academy of Microbiological Sciences(FAMI/FAMSc)(2017)
- AMI-Alembic Award in Industrial Microbiology(2015)
- ASM-IUSSTF Indo-US Professorship Award in Microbiology by American Society of Microbiology(2014)
- Selected as Scientist/ Project investigator and Participated in Southern Ocean Expedition (SOE-2011) (Ministry of Earth Sciences, Govt. of India). (January-March,2011)
- Danisco India Award in Probiotics & Enzyme Technology(2010)
- Awarded with NRF-DUT Post-Doctoral Fellowship in Enzyme Biotechnology supported by National Research Foundation and Durban University of Technology, South Africa(2008-2009)
- Stood First in the order of merit in University for Master of Science (Applied Microbiology & Biotechnology)
- Received "**Prof. S.B. Saksena, Award**" in life sciences for getting **first** position in university during M.Sc. in Applied Microbiology and Biotechnology (Consist of a cash prize and citation).

R & D PROJECTS/ GIAN Courses [As Principal Investigator (PI)/Co-Investigator (Co-PI)]

S. No.	Title of Project	Funding Agency & Total Budget	Sanction date/Year	Duration
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1.	'Development of probes for early detection of microorganisms responsible for food spoilage during food processing and preservation'. (45/MFPI/R&D/2002-IV)(As Co-PI)	Ministry of Food Processing & Industries, Govt of India Rs. 80.00 Lakhs (INR)	15-02-2006	2 years (2006-2008)
2.	Genetic modification of hydrogen producing algae (As Coordinator)	Institute Sponsored R & D Project (Rs. 3Lakhs)	July 2009	3 Years 2009-2011
3.	Innovative Project on Bio-hydrogen production from microalgae(PI)	BIT Mesra, Ranchi (Rs. 3.00 Lakhs)	August, 2010	November, 2012 (3.00 Lakhs)
4.	Cloning, expression and Characterization of a novel xylanase from <i>Thermomyceslanuginosus</i> and improvement of effectualbioprocess'(PI) (Reg. No. SERC/LS-228/2012 dated 06/08/12)	DST-FAST TRACK Govt. of India (Rs. 23.46 Lakhs)	August 2012	2012-2015 (3 Years)
5.	Proteomic analysis and lipid profiling of <i>Chlamydomonasreinhardtii</i> and its relevance towards bio-fuel production(PI)	UGC, New Delhi Rs. 9,80,800/-	22, March,2013 (01-04-2013)	2013-2016 (3 Years)
6.	"TREAT-AFTER-TOO-Targeting elimination of antineoplastic compounds in hospital waste waters: novel frontiers in sustainable treatment".(As Co-PI) (BT/IN/INNO-INDIGO/26/MKM/2015-16)	DBT, Govt. of India- INNOINDIGO Rs. 209.168 Lakhs (Rs. 2 Crore Nine Lakhs)	Nov 26, 2015	2015-2018 (3 Years)
7.	Site Directed Mutagenesis of UbiA gene in <i>Agrobacterium tumefaciens</i> to enhance CoQ10 Yield [BT/PR13569/BBE/117/106/2015] (As Co-PI)	DBT, Govt. of India Rs. 40 Lakhs (Rs. Forty Lakhs)	2016	2016-2018 (2 Years)
8.	Process development for the cost effective production of fungal endoglucanase, lipase and amylase for deinking of newsprints and mixed office waste papers (BT/PR27437/BCE/8/1433/2018) (PI & Coordinator)	DBT, Govt. of India Rs. 62.91 Lakhs (Rs. Sixty Two Lakhs Ninety one thousand)	August, 2018	2018-2021 (3 Years)
9.	Transcriptional engineering of a fast-growing marine cyanobacterium <i>Synechococcus</i> sp. PCC 11901 towards efficient metabolites production (File Number: CRG/2021/001206) (P.I.)	Core Research Grant, SERB-DST, Govt. of India Rs. 101 Lakhs (Rs. One Crore, One Lakh only)	2022	2025
10.	Functional characterization of universal stress-responsive genes in the model cyanobacterium <i>Synechocystis</i> sp. PCC 6803.	Institute of Eminence (IoE) Grant, BHU, Varanasi Rs. 10 Lakhs (Rs. Ten Lakhs)	2022	2024

INFRASTRUCTURAL GRANT (DEPARTMENTAL/INSTITUTIONAL PROJECTS/GIAN GRANTS)

9.	"Fund for Improvement of S&T infrastructure in universities & higher educational institutions (FIST- Level-I)" (Grant No. 1196SR/FST/LS-I/2017/4). [Term as Coordinator- 2018- 2021]	Department of Science and Technology, Govt. of India Rs. 90 Lakhs (Rs. Ninety Lakhs)	2018	2018-2023 (5 Years)
10.	Erasmus+ Capacity Building in Higher Education - "ENHANCING FEMALE ENTREPRENEURSHIP IN INDIA (ENPRENDIA)" [Partner Institute Coordinator]	European Union (EU) 9,81,676 Euros [Rs. 8,20,46,717]	February, 2018	2018-2021 (3 Years)
11.	Current challenges in commercial production of cellulosic ethanol (As Course Coordinator)	GIAN, MHRD, Govt. of India Rs. 5.44 Lakhs	2018	8-13 October, 2018
12.	Enzymatic protein hydrolysates and material behaviour of its fractions in human nutrition (As Course Coordinator)	GIAN, MHRD, Govt. of India Rs. 5.44 Lakhs	2018	19-24 November, 2018