

# Curriculum Vitae

**1. Name:** PROF. RAM CHANDRA, *Ph.D., FAEB, FBRSI FAMI*  
**2. Current Position & Address** Professor and Former Head/ Dean  
Department of Microbiology,  
School of Environmental Sciences  
Babasaheb Bhimrao Ambedkar Central University  
Vidya Vihar, Raebareli Road, Lucknow-226025, U.P., India  
Mob: +91-9450652324; e-mail:prof.chandrabbau@gmail.com  
**3. Citation Index** Citation: 3049 h-index: 35 i-10 index: 56



**4. Educational Qualification: Ph.D.**

**5. Research & Teaching Experience: 29 Years**

**Professor** (2011 to till date)

Department of Environmental Microbiology

B. B. Ambedkar University (A Central University), Govt. of India Lucknow, U.P

**Scientist 'F' (Deputy Director)** (2009 to 2011)

Environmental Microbiology Division

Indian Institute of Toxicology Research (CSIR-IITR, Govt. of India)

**Scientist 'E<sub>II</sub>'(Sr. Astt. Director)** (2004 to 2009)

Environmental Microbiology Division

Industrial Toxicology Research Centre (CSIR- ITRC, Govt. of India)

**Scientist 'E<sub>I</sub>'(Astt. Director)** (1999 to 2004)

Environmental Microbiology Division

Industrial Toxicology Research Centre (CSIR- ITRC, Govt. of India)

**Scientist 'C' (Sr. Scientist)** (1994 to 1999)

Environmental Microbiology Division

Industrial Toxicology Research Centre (CSIR- ITRC, Govt. of India)

**Scientist 'B'** (1989 to 1994)

Environmental Microbiology Division

Industrial Toxicology Research Centre (CSIR-ITRC, Govt. of India)

**6. Area of Specialization:**

**Prof. Ram Chandra** has made national and international leading contribution in area of **Microbiology** by working on **Bioremediation and Biodegradation of lignin from pulp paper mill waste and melanoidin of distillery waste** by publishing more than **140 original research papers, 06 books, 31 book chapters, 66 technical reports and 41 popular articles**. In addition, he has significantly contributed on phytoremediation of industrial waste contaminated with complex organo-metallic pollutants. Particularly, lignin waste of pulp paper and sugarcane molasses based distillery waste. He has also successfully submitted more than 300 nucleotide sequence data to NCBI GenBank of potential bacterial species to decolorize and detoxify lignin from pulp paper mill effluent and melanoidins from distillery effluent. Moreover, he has been granted an Indian patent on **“A process for biological decolourisation of sugarcane molasses based anaerobically treated distillery effluent”**. He has specialization broadly in following area

- Environmental Microbiology (Bioremediation & Metagenomics)  
(Biodegradation and their Environmental Effect of Distillery and Pulp Paper Mill Effluent)
- Environmental Biotechnology
- Environmental Impact Assessment

- Phytoremediation of Environmental Pollutants of Distillery and Pulp Paper Mill Waste

## 7. Administrative & Management Experience:

**Director** (Residential Coaching Academy) UGC Sponsored, Running at B.B. Ambedkar University, Lko. (August 2016 till date)

**Proctor** (B.B. Ambedkar University, Lucknow)  
(2016 till date)

**Dean** (School of Environmental Sciences), B.B. Ambedkar University, Lko.  
(2016 to March 2019)

**Dean** (School of Management Studies), B.B. Ambedkar University, Lko.  
(2016 to March 2019)

**Dean** (School of Biomedical & Pharmaceutical Sciences), B.B. Ambedkar University, Lko.  
(2017-2018)

**Member**, Board of Management (BOM), B.B. Ambedkar University, Lko.  
(April- August, 2018)

**Head**, (Deptt. of Environmental Microbiology), B.B. Ambedkar University, Lko.  
(July 2011 to July 2014)

**Coordinator** (PG & Ph.D. Entrance Test-2017, B.B. Ambedkar University, Lko.  
(PG & Ph.D. Entrance Test-2017, B.B. Ambedkar University, Lko.

**Chief Coordinator** (Contemporary and Innovative Courses, Deptt. of Environmental Microbiology, B.B. Ambedkar University, Lko (2013 to 2017)

**Professor In-charge Library** (Gautam Buddha Central Library, B.B. Ambedkar University, Lko  
(2012 to 2013)

**Dean (Alumni Relations)** Deptt. of Alumni Relation, , B.B. Ambedkar University, Lko  
(2013 to 2014)

**Controller of Examination (COE)**, B.B. Ambedkar University, Lko, (2012)

**Scientist In-charge and Project Leader** (Division of Environmental Microbiology, Industrial Toxicology Research Centre (CSIR-ITRC, Govt. of India), (1993 to 2011)

## 8. Number of Publications/Patents and Research Projects Completed: 280

|   |       |
|---|-------|
| (i) Research Papers and Technical Reports | : 140 |
| (ii) Books (Authored/Edited)              | : 07  |
| (iii) Book Chapters                       | : 35  |
| (iv) General Articles                     | : 20  |
| (v) Conference Paper Presented            | : 75  |
| (vi) Grant in Aid project                 | : 25  |
| (vii) Popular Hindi Articles              | : 14  |
| (viii) Patent Granted                     | : 01  |

## 9. Supervised M.Sc./ M.Phil./ Ph.D. Students:

|                                      |      |
|--------------------------------------|------|
| (a) Ph.D.                            | : 16 |
| (b) M.Phil.                          | : 02 |
| (b) M.Sc.                            | : 91 |
| (c) Current Ph.D. registered student | : 07 |

## 10. List of Some Recent Publications

| Sl. No. | Authors  | Title   | Journal Name, No. and Volume  | Year |
|---------|--|---|---|------|
| 1.      | A. Kumar & R. Chandra                              | Pollutants released from the pulp paper industry: Aquatic toxicity and their health hazards   | Journal of Aquatic Toxicology   | 2019 |
| 2.      | S. Yadav & R. Chandra                              | Detection and assessment of the phytotoxicity of residual organic pollutants in sediment contaminated with pulp and paper mill effluent   | Environ Monit Assess. 190:581   | 2018 |
| 3.      | S. Upadhyaya, D Yadav, R Chandra, N Arora          | Evaluation of antibacterial and phytochemical properties of different spice extracts  | African J Microbiology Research 12(2):27-37                                     | 2018 |
| 4.      | R. Chandra, P. Sharma, S. Yadav, S. Tripathi       | Biodegradation of Endocrine Disrupting Chemicals (EDC) and Residual Organic Pollutants of Pulp and Paper Mill Effluent after Secondary Treatment in Biostimulation Process for Environmental Safety                 | Frontier in Microbiology 2018   | 2018 |
| 5.      | P. Chowdhur, A. Yadav, R. Singh, R. Chandra et al. | Stress response of Triticum aestivum L. and Brassica juncea L. against heavy metals growing at distillery and tannery wastewater contaminated site  | J. Hazard Materials 206: 122-131  | 2018 |
| 6.      | R. Chandra, V. Kumar, S. Tripathi                  | Evaluation of molasses-melanoidins decolourisation by potential bacterial consortium discharged in distillery effluent  | 3 Biotech 8:187   | 2018 |
| 7.      | V. Kumar, R. Chandra                               | Characterisation of manganese peroxidase and laccase producing bacteria capable for degradation of sucrose glutamic acid-maillard reaction products at different nutritional and environmental conditions           | World J Microbiology & Biotechnology 34:32                                      | 2018 |
| 8.      | R. Chandra, V. Kumar, Tripathi, S., Sharma, P.     | Heavy metal phytoextraction potential of native weeds and grasses from endocrine-disrupting chemicals rich complex distillery sludge and their histological observations during in-situ phytoremediation            | Ecological Engineering 111:143-156  | 2018 |
| 9.      | S. Upadhyaya, P.Srivastava, R. Chandra, N. Arora   | Microbiological assessment and hazardous effect of ready-to-eat foods presented for sale in Lucknow City, India   | African J Food Science  | 2017 |
| 10.     | R. Chandra, V. Kumar                               | Detection of androgenic-mutagenic compounds and potential autochthonous bacterial communities during in situ bioremediation of post-methanated distillery sludge.   | Frontiers in Microbiology 8:887   | 2017 |
| 11.     | R. Chandra, V. Kumar                               | Detection of <i>Bacillus</i> and <i>Stenotrophomonas</i> species growing in an organic acid and endocrine-disrupting chemical-rich environment of distillery spent wash and its phytotoxicity                       | Environmental Monitoring & Assessment 189(1):1-19                               | 2017 |
| 12.     | R. Chandra, S. Yadav, S. Yadav                     | Phytoextraction potential of heavy metals by native wetland plants growing on chlorolignin containing sludge of pulp and paper industry   | Ecological Engineering 98:134-145   | 2017 |
| 13.     | R. Chandra, V. Kumar                               | Phytoextraction of heavy metals by potential native plants and their microscopic observation of root growing on stabilised distillery sludge as a prospective tool for in situ phytoremediation of industrial waste | Environmental Science and Pollution Research 24:2605-2619                       | 2017 |
| 14.     | G. Saxena, R. Chandra, R.N. Bharagava,             | Environmental pollution, toxicity profile and treatment approaches for tannery wastewater and its chemical pollutants   | Reviews of Environmental Contamination and Toxicology DOI 10.1007/398_2015_5009 | 2015 |
| 15.     | B. T. Odumosu, B A Adeniyi, R. Chandra             | First Detection of OXA-10 Extended-Spectrum Beta-Lactamases and the Occurrence of mexR and nfxB in Clinical Isolates of <i>Pseudomonas aeruginosa</i> from Nigeria  | Chemotherapy 61(2):87-92  | 2015 |
| 16.     | S. Yadav, R. Chandra                               | Syntrophic co-culture of <i>Bacillus subtilis</i> and <i>Klebsiella pneumoniae</i> (GU 193981) for decolorization of kraft lignin discharge from rayon grade pulp industry.   | J. Environmental Science 33:229-238   | 2015 |
| 17.     | R. Chandra, P Chowdhary                            | Properties of Bacterial Laccases and Their Application for Bioremediation of Industrial Wastes.   | Environmental Science: Processes & Impacts. 17:326-342                          | 2015 |
| 18.     | R.N. Bharagava, S. Yadav, R. Chandra               | Antibiotic and heavy metal resistance properties of bacteria isolated from the aeration lagoons of common effluent treatment plant (CETP) of tannery industries (Unnao, India)                                      | Indian J Biotechnology 13: 514-519  | 2014 |

|     |  |   |  |      |
|-----|--|---|--|------|
| 19. | S. Yadav,<br><b>R. Chandra</b>                                       | Effect of heavy metals and phenol on bacterial decolourisation and COD reduction of sucrose-aspartic acid Maillard product  | <b>J. Environmental Science</b><br>25(1), 1-9                                    | 2013 |
| 20. | <b>R. Chandra</b> ,<br>P Chowdhary                                   | Properties of Bacterial Laccases and Their Application for Bioremediation of Industrial Wastes.   | <b>Environmental Science: Processes &amp; Impacts.</b><br>17:326-342             | 2015 |
| 21. | R.N. Bharagava,<br>S. Yadav,<br><b>R. Chandra</b>                    | Antibiotic and heavy metal resistance properties of bacteria isolated from the aeration lagoons of common effluent treatment plant (CETP) of tannery industries (Unnao, India)  | <b>Indian J Biotechnology</b><br>13: 514-519                                     | 2014 |
| 22. | S. Yadav,<br><b>R. Chandra</b>                                       | Effect of heavy metals and phenol on bacterial decolourisation and COD reduction of sucrose-aspartic acid Maillard product  | <b>J. Environmental Science</b><br>25(1), 1-9                                    | 2013 |
| 23. | S. Yadav,<br><b>R. Chandra</b>                                       | Effect of pH on melanoidin extraction from post methanated distillery effluent (PMDE) and its decolorization by potential bacterial consortium  | <b>International Journal of Recent Scientific Research</b><br>04 (10): 1492-1496 | 2013 |
| 24. | B T Odumosu,<br>B A Adeniyi,<br><b>R. Chandra</b>                    | Analysis of integrons and associated gene cassettes in clinical isolates of multidrug resistant <i>Pseudomonas aeruginosa</i> from Southwest Nigeria  | <b>Annals of Clinical Microbiology &amp; Antimicrobials</b><br>12:29             | 2013 |
| 25. | <b>R. Chandra</b><br>and S.<br>Chaudhary                             | Persistent organic pollutants in environment and their health hazards   | <b>International J of Bioassays</b><br>02 (09): 1232-1238                        | 2013 |
| 26. | C. Singh, J S<br>Singh, V<br>Kumar, <b>R. Chandra</b> and<br>N Kumar | Screening out of coliform bacteria from different location of Gomti River in Lucknow  | <b>African J of Microbiology Research</b><br>7 (29): 3762-3771                   | 2013 |
| 27. | <b>R. Chandra</b> ,<br>R.N. Bharagava                                | Bacterial degradation of synthetic and kraft lignin by axenic and mixed culture and their metabolic products.   | <b>J. Environ. Biology</b><br>34 (6):991-999                                     | 2013 |
| 28. | S. Yadav,<br><b>R. Chandra</b>                                       | Detection of persistent organic pollutants from biomethanated distillery spent wash (BMDS) and their degradation by manganese peroxidase and laccase producing bacterial strains  | <b>J. Environ. Biology</b><br>34 (4): 755-764                                    | 2013 |
| 29. | S. Yadav,<br><b>R. Chandra</b>                                       | Simultaneous reduction of colour and organic compounds of biomethanated distillery spent wash (BMDS) by manganese peroxidase (MnP) and laccase producing bacterial consortium at optimized condition                    | <b>J. Environmental Biology</b>  | 2012 |
| 30. | B T Odumosu,<br>B A. Adeniyi D<br>A Hannah,<br><b>R Chandra</b>      | Multidrug resistant <i>Pseudomonas aeruginosa</i> from southwest nigeria hospitals  | <b>Int. J. Pharm. Sci. Rev. Res.</b><br>15(2): 11-15                             | 2012 |
| 31. | S. Yadav,<br><b>R. Chandra</b>                                       | Comparative growth and ligninolytic activity of isolated bacterial strains on decolourization of two synthetic melanoidin   | <b>Indian Journal of Environmental Protection</b><br>32(11), 926-934             | 2012 |
| 32. | <b>R. Chandra</b> ,<br>S. Yadav                                      | Biodegradation of organic compounds of molasses melanoidin (MM) from biomethanated distillery spent wash (BMDS) during the decolourisation by a potential bacterial consortium  | <b>Biodegradation</b><br>23:609-620  | 2012 |
| 33. | <b>R. Chandra</b> ,<br>R. Singh,                                     | Decolourization and detoxification of rayon grade pulp paper mill effluent by mixed bacterial culture isolated from pulp paper mill effluent polluted site  | <b>Biochemical Engineering</b> 61,<br>49-58                                      | 2012 |
| 34. | <b>R. Chandra</b> ,<br>R. Singh, S.<br>Yadav                         | Effect of bacterial inoculum ratio in mixed culture for decolourization and detoxification of pulp paper mill effluent  | <b>J Chem Technol Biotechnol</b><br>87: 436-444                                  | 2012 |
| 35. | <b>R. Chandra</b> , R.N.<br>Bharagava, A.<br>Kapley, H.J.<br>Purohit | Characterization of <i>Phargmites cummunis</i> rhizosphere bacterial communities and metabolic products during the two stage sequential treatment of post methanated distillery effluent by bacteria and wetland plants | <b>Bioresource Technology</b> 103,<br>78-86                                      | 2012 |
| 36. | <b>R. Chandra</b> ,<br>S. Yadav,<br>R.N. Bharagava ,<br>Vibhuti Rai  | Phenol degradation by <i>Paenibacillus thiaminolyticus</i> and <i>Bacillus cereus</i> in axenic and mixed conditions  | <b>World J Microbiol Biotechnol</b><br>27:2939-2947                              | 2011 |

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|-----|---|---|--|------|
| 37. | Sangeeta Yadav,<br><b>Ram Chandra,</b><br>Vibhuti Rai                   | Characterization of potential MnP producing bacteria and its metabolic products during decolourisation of synthetic melanoidins due to biostimulation effect of D-xylose at stationary phase.             | <b>Process Biochemistry</b><br>46: 1774-1784                                     | 2011 |
| 38. | <b>R. Chandra,</b><br>Amar Abhishek,<br>Monica<br>Sankhwar              | Bacterial decolorization and detoxification of black liquor from rayon grade pulp manufacturing paper industry and detection of their metabolic products  | <b>Bioresource Technology</b><br>102, 6429-6436                                  | 2011 |
| 39. | <b>R. Chandra,</b><br>Monica<br>Shankhwar                               | Influence of lignin, pentachlorophenol and heavy metal on antibiotic resistance of pathogenic bacteria isolated from pulp paper mill contaminated river water.  | <b>Journal of Environmental<br/>Biology</b><br>32, 1-7                           | 2011 |
| 40. | <b>R. Chandra ,</b><br>Sangeeta Yadav                                   | Phytoremediation of Cd, Cr, Cu, Mn, Fe, Ni, Pb and Zn from aqueous solution using <i>Phragmites cummunis</i> , <i>Typha angustifolia</i> and <i>Cyperus esculentus</i>                                    | <b>International Journal of<br/>Phytoremediation</b><br>13:6, 580-591            | 2011 |
| 41. | <b>R. Chandra,</b><br>Amar Abhishek                                     | Bacterial decolourisation of black liquor in axenic and mixed condition and characterization of metabolites   | <b>Biodegradation</b><br>22,603-611  | 2011 |
| 42. | Sangeeta Yadav,<br><b>R. Chandra</b>                                    | Heavy metals accumulation and ecophysiological effect on <i>Typha angustifolia</i> L. and <i>Cyperus esculentus</i> L. growing in distillery tannery effluent polluted natural wetland site, Unnao, India | <b>Environmental Earth<br/>Sciences</b><br>62, 1235-1243                         | 2011 |
| 43. | <b>R. Chandra,</b> R.N.<br>Bharagava, A.<br>Kapley, H.J.<br>Purohit     | Bacterial diversity , organic pollutant and their metabolites in two aeration lagoons of common effluent treatment plant (CETP) during degradation and detoxification of tannery wastewater.              | <b>Bioresource Technology</b><br>102, 2333-2341                                  | 2011 |
| 44. | <b>R. Chandra,</b><br>Sangeeta Yadav                                    | Potential of <i>Typha angustifolia</i> for phytoremediation heavy metal aqueous solution of phenol and melanoidin   | <b>Ecological Engineering</b><br>36, 1277-1284                                   | 2010 |
| 45. | R.N. Bharagava,<br><b>R. Chandra,</b>                                   | Biodegradation of the major color containing compounds in distillery wastewater by an aerobic bacterial culture and characterization of their metabolites   | <b>Biodegradation</b><br>21, 703-711   | 2010 |
| 46. | R.N. Bharagava,<br><b>R. Chandra,</b>                                   | Effect of bacteria treated and untreated post-methanated distillery effluent (PMDE) on seed germination, seedling growth and amylase activity in <i>Phaseolus mungo</i> L                                 | <b>Journal of Hazardous<br/>Materials</b><br>180, 730-734                        | 2010 |
| 47. | Sangeeta Yadav,<br><b>R. Chandra,</b><br>V. Rai                         | Effect of biologically treated post methanated distillery effluent on seed germination and growth parameters of <i>Vicia faba</i>   | <b>Journal of Environmental<br/>Protection</b><br>353-365                        | 2010 |
| 48. | <b>R. Chandra,</b><br>Sangeeta Yadav,<br>R.N. Bharagava                 | Biodegradation of pyridine raffinate by two bacterial co-cultures of <i>Bacillus cereus</i> (DQ435020) and <i>Alcaligenes faecalis</i> (DQ435021)   | <b>World Journal of<br/>Microbiology and<br/>Biotechnology.</b><br>26,685-692    | 2010 |
| 49. | Ram Naresh<br>Bharagava and<br><b>Ram Chandra</b>                       | "Isolation and characterization of phenolic compounds by 1H NMR and mass spectrometric analysis from sugarcane molasses post methanated distillery effluent."   | <b>Journal of Environmental<br/>Protection</b><br>873-881                        | 2009 |
| 50. | <b>R. Chandra,</b> R.N.<br>Bharagava, A.<br>Kapley,<br>H.J. Purohit     | Isolation and characterization of potential aerobic bacteria capable for pyridine degradation in presence of picoline, phenol and formaldehyde as co-pollutants   | <b>World Journal of<br/>microbiology and<br/>biotechnology.</b><br>25, 2113-2119 | 2009 |
| 51  | Shail Singh,<br>B.B.Singh,<br><b>Ram Chandra,</b><br>D. K. Patel, V.Rai | Synergistic biodegradation of pentachlorophenol by <i>Bacillus cereus</i> (DQ002384), <i>Serratia marcescens</i> (AY927692) and <i>Serratia marcescens</i> (DQ002385)                                     | <b>World Journal of<br/>Microbiology and<br/>Biotechnology.</b><br>25, 1821-1828 | 2009 |
| 52. | <b>R. Chandra,</b> R.N.<br>Bharagava, V.<br>Rai, S.K. Singh             | Characterisation of sucrose-glutamic acid maillard products (SGMPs) degrading bacteria and their metabolites  | <b>Bioresource Technology</b><br>100, 6665-6668                                  | 2009 |
| 53. | R.N. Bharagava,<br><b>R. Chandra,</b><br>V. Rai,                        | Isolation and characterization of aerobic bacteria capable for the degradation of synthetic and natural melanoidins from distillery effluent  | <b>World Journal of<br/>Microbiology and<br/>Biotechnology</b><br>25, 737-744    | 2009 |
| 54. | <b>R. Chandra,</b> R.N.<br>Bharagava, S.<br>Yadav,<br>D. Mohan          | Accumulation and distribution of toxic metals in wheat ( <i>Triticum aestivum</i> L.) and Indian mustard ( <i>Brassica campestris</i> L.) irrigated with distillery and tannery effluents                 | <b>Journal of Hazardous<br/>Materials</b><br>162, 1514-1521                      | 2009 |

## 11. Keynote/Invited Speaker in National/International Conferences: (Total 75)

- **Prof. Ram Chandra (2018)** delivered a talk as **Invited speaker** on “Biodegradation of Endocrine Disrupting Chemicals (EDC) and Residual Organic Pollutants of Pulp and Paper Mill Effluent after Secondary Treatment in Biostimulation Process for Environmental Safety” in **Association of Microbiologists of India (AMI-2018)** held from November 12-14, 2018 at Maharshi Dayanand University, Rohtak, Haryana.
- **Ram Chandra (2018)** delivered a talk as **Invited speaker** on “Bacterial assisted phytoremediation of distillery sludge for safe disposal: An innovative approach for sustainable development of distillery sector in India” in **All India Distillers’ Association** held from March 26-27, 2018 at New Delhi.
- **Ram Chandra (2018)** Environmental Health Hazards of Distillery Waste and its Bioremediation Strategies for Environmental Safety. Presented in National Conference On “Environmental Conservation: Micro-biotechnological methods to combat Global Issues” organized by Sarva Vidyalaya Kelavani Mandal Managed, Gujarat held from February 10-11, 2018 at Pramukh Swami Science and H D Patel Arts College (**Keynote Speaker**)
- **Prof. Ram Chandra (2018)** delivered a talk as **Invited speaker** on “Heavy metal phytoextraction potential of native weeds & grasses from endocrine-disrupting chemicals rich complex distillery sludge and their histological observation during in-situ phytoremediation” in **1<sup>st</sup> North Indian Science Congress & International Conference (NISC 2018)** on “**Science & Technology for Sustainable Future**” on January 10<sup>th</sup>, 2018, BBAU, Lucknow.
- **Prof. Ram Chandra (2018)** delivered a **lead lecture** on “Heavy Metals Phytoextraction Potential of Native Plants and their Histological Observation Growing on Stabilized Distillery Sludge: A Prospective Tool for in situ Phytoremediation of Hazardous Industrial Waste” in **Sixth international conference on Plants & environmental pollution** held from November 27-30, 2019 at **CSIR-NBRI, Lucknow**.
- **Ram Chandra (2017)** Environmental Health Hazards of Post Methanated Distillery Waste and Development of New Technology on Decolourisation and Detoxification of Post Methanated Distillery Effluent for its Recycling and Re-use. Presented in National Seminar organized by **All India Distillers’ Association** held from February 22-23, 2017 at New Delhi (**Invited Speaker**)
- **Ram Chandra (2017)** Use of Industrial Wastewater in Agricultural Practices: Challenges and opportunities for its application. Presented in National Workshop on Agricultural Research with Relation to IPR organized by **Babasaheb Bhimrao Ambedkar University, Lucknow** held from August 30-31, 2017 at BBAU, Lucknow (**Lead Speaker**)

- **Ram Chandra (2016)** Environmental Health Hazards of Post Methanated Distillery Waste and Its Detoxification Presented in 74<sup>th</sup> Annual Convention and International Sugar Expo organized by **The Sugar Technologists' Association of India** held from July 28-30, 2016 at New Delhi (**Invited Speaker**)
- **Ram Chandra (2016)** Detection of indigenous bacterial community growing in the endocrine-disrupting chemicals and heavy metal rich environment of sugarcane molasses based distillery waste Presented in 57 Annual Conference of Association of Microbiologist of India Organized by University of Gauhati held from 24-27 Nov, 2016 at Guwahati, Assam. (**Lead Speaker**)
- **Ram Chandra (2014)**. Role of Bacteria Enzyme for Detoxification of Melanoidin from Post Methanated Distillery Effluent for Environmental Safety. **Presented In 101<sup>st</sup> Indian Science Congress** held from February 3-7, 2014 at University of Jammu, Jammu (**Lead lecture**).
- **Ram Chandra (2014)**. Role of Bacterial Manganese Peroxidase (MnP) and Laccase for Pulp Paper Mill Effluent Decolourisation and Detoxification. Presented in **National Conference** organized by **Association of Microbiologist of India (AMI)** held from Nov 12-14, 2014 at Tamil Nadu Agricultural University, Coimbatore (Invited lecture)
- **Ram Chandra (2014)**. Environmental health Hazards of Distillery Waste Water and Its Biodegradation for Environmental Safety. Presented in International Conference on Emerging trends in Biotechnology (ICETB-2014) Organized by **The Biotech Research Society, India (BRSI)** held from Nov 6-9, 2014 at Jawaharlal Nehru University, New Delhi (**Invited Talk**)
- **Ram Chandra (2014)**. Role of Bacteria Enzyme for Detoxification of Melanoidin from Post Methanated Distillery Effluent for Environmental Safety. **Presented In International Conference on Environmental Conservation by Adopting New Technologies** Organized by Modern College of Arts, Science & Commerce, held at **Maharashtra** from January 28-19, 2014
- **Ram Chandra (2012)**. Biodegradation of pollutants discharged from distillery and pulp paper mill effluent for environmental safety. Presented in international conference on Industrial Biotechnology organized by **The Biotech Research Society, India (BRSI)** held from Nov-21-23, 2012 at Department of Biotechnology, Punjab University, Patiala. (**Lead Speaker**)
- **Ram Chandra (2012)**. Decolourisation and detoxification of rayon grade pulp paper mill effluent by using bacterial consortium. Presented in **international conference** organized by **Association of Microbiologist of India (AMI)** held from Nov 22-25, 2012 at KIIT University, Bhubaneswar -24, Odisha. (**Lead Speaker**)

## 12. Authored/Edited Books: Seven

| Book Cover  | Name of Book   |
|---|--|
|    | <p><b>Title:</b> Microbes for Sustainable Development and Bioremediation<br/> <b>Editor(s):</b> Ram Chandra and R.C. Sobti<br/> <b>Publisher:</b> CRC Press (Taylor &amp; Francis Group), USA<br/>           Year: 2019<br/> <b>ISBN:</b> 9780367226008</p>  |
|    | <p><b>Title:</b> Phytoremediation of Environmental Pollutants<br/> <b>Editor(s):</b> Ram Chandra, N.K. Dubey, Vineet Kumar<br/> <b>Publisher:</b> CRC Press (Taylor &amp; Francis Group), USA<br/>           Year: 2017<br/> <b>ISBN:</b> 9781138062603</p>  |
|    | <p><b>Title:</b> Environmental Science and Engineering Volume 6: Toxicology<br/> <b>Editor:</b> Ram Chandra, Bhola R. Gurjar, J.N. Govil<br/>           Publisher: Studium Press LLC, USA Year: 2016<br/> <b>ISBN:</b> 1626990948</p>                        |
|   | <p><b>Title:</b> Environmental Waste Management<br/> <b>Editor:</b> Ram Chandra<br/>           Publisher: CRC Press (Taylor &amp; Francis Group), USA<br/>           Year: 2015<br/> <b>ISBN:</b> 9781498724746</p>  |
|  | <p><b>Title:</b> Advances in Biodegradation and Bioremediation of Industrial Waste<br/> <b>Editor:</b> Ram Chandra<br/> <b>Publisher:</b> CRC Press (Taylor &amp; Francis Group), USA<br/>           Year: 2015<br/> <b>ISBN:</b> 9781498700542</p>          |
|  | <p><b>Title:</b> Bacterial metabolism of melanoidins from distillery effluent<br/> <b>Author(s):</b> Ram Naresh Bharagava &amp; Ram Chandra<br/> <b>Publisher:</b> Lambert Academic Publishing<br/>           Year: 2012<br/> <b>ISBN:</b> 9783848449033</p> |
|  | <p><b>Title:</b> Distillery Wastewater Pollution and Bioremediation<br/> <b>Author(s):</b> Ram Chandra &amp; Sangeeta Yadav<br/> <b>Publisher:</b> CBS Publisher &amp; Distributors, New Delhi<br/>           Year: 2014<br/> <b>ISBN:</b> 9788123925035</p> |

## 13. Number of Patents Granted/Applied

### 13.1 Patent Granted: (One)

- “A process for biological decolourisation of sugarcane molasses based anaerobically treated distillery effluent.” *Application No: 458/DEL/2003A*. International Classification: C02F3/34.



### 13.2. Patent Applied: (TWO)

1. “A novel technique for enhanced decolourisation of post methanated distillery effluent (PMDE) by wetland treatment system after bacterial degradation for environmental safety.” Ref. No. 0184/NF2008
2. “Enhanced photo-decolourisation of bacterial pre-treated post methanated distillery effluent (PMDE) for environmental safety.” Ref. No. 0184/NF2008

### 14. Professional Affiliations:

1. Elected as Member of **Board of Governors** of The Biotech Research Society, India (2015-17)
2. **Executive member** Central Council of AMI, India (April 2014-17)
3. Member of **American Society for Microbiology (ASM)**, USA
4. **Life member of The Sugar Technologist of India (STAI)**, Memb. No. 6445
5. Life member of **Society of Toxicology**, India
6. Life member of **Academy of Environmental Biology**, India
7. Life member of **Association Microbiologist of India (AMI)**, India
8. Life member of **Indian Science Congress Association**, India
9. Life Member of **The Biotech Research Society**, India
10. Life Member of **National Academy of Sciences**, India
11. Life Member of **The Association for Overseas Technical Scholarship (AOTS)**, Japan
12. Life members of **Indian Network for Soil Contamination Research (INSCR)**, New Delhi
13. The board of **Directors Governing board of Editors and Publications board of the American Biographical Institute**

### 15. Successfully Completed Grant-In-Aid Project (GAP) As Project Leader from Different Funding Agency:

| SI. No. | Title   | Funding agency   | Year       |
|---------|---|--|------------|
| 1.      | Development of indigenous technology for removal of sulfur compounds and colour from distillery effluent for improvement of biomethanogenesis | <b>Ministry of Environment and Forests (MoEF)</b> , Govt. of India, New Delhi.       | 1994-1998  |
| 2.      | Development of simple, rapid specific test for detection of fecal coliform. <i>E. coli</i> in rural drinking water                            | <b>Ministry of Rural Development</b> , New Delhi, (Rajiv Gandhi Drinking Programme). | 1997-1998  |
| 3.      | Microbial detoxification of industrial waste  | <b>CSIR</b> , New Delhi  | 1996-1999  |
| 4.      | Microbial degradation of pyridine raffinate for environmental safety  | <b>Vam Organic chemical Ltd.</b> (Industry) Gajraula (U.P.)                          | 1998-2000  |
| 5.      | Feasibility test study for microbial decolourisation of treated distillery effluent   | <b>Vam Organic chemical Ltd.</b> (Industry) Gajraula (U.P.)                          | 1998- 2000 |
| 6.      | Bacterial analysis from sludge sample   | IIT, Kharagpur   |            |
| 7.      | Development of microorganism for removal of colour from treated distillery effluent   | <b>Deptt. Of Biotechnology</b> , Govt. of India, New Delhi                           | 1999-2003  |
| 8.      | Biological removal of colour from treated distillery effluent at tertiary stage and their application for aquaculture                         | <b>Ministry of Environment &amp; Forests (MoEF)</b> , Govt. of India, New Delhi      | 2000-2004  |

|     |   |  |            |
|-----|---|--|------------|
| 9.  | Optimisation of wetland treatment system and microbial decolourisation of treated distillery effluent   | <b>Vam Organic chemical Ltd.</b><br>(Industry) Gajraula (U.P.)         | 2001-2003  |
| 10. | Microbial decolourisation and toxicity evaluation of pulp and paper mill effluent   | <b>Council of Science and Technology (CST),</b> UP, India              | 2002-2005  |
| 11. | Development of microbial technique for degradation of pyridine and picoline raffinate for safe disposal   | <b>Department of Biotechnology (DBT),</b><br>Govt. of India, New Delhi | 2004-2006  |
| 12. | Environmental Impact Assessment and baseline data collection for Utkal Alumina project  | <b>Ministry of Industry</b>  | 2002-2005  |
| 13. | Optimisation of pilot scale bacterial decolourisation and degradation of anaerobically treated distillery effluent in constructed wetland treatment system for safe disposal      | <b>Department of Biotechnology (DBT),</b><br>Government of India       | 2004- 2007 |
| 14. | Biological decolourisation of anaerobically treated distillery effluent by wetland plant treatment system. Industrial waste minimization and Clean-Up                             | <b>CSIR-Network Project</b>  | 2004- 2007 |
| 15. | Characterization of inhibitory factors for improvement of bacterial degradation of lignin and pentachlorophenol from pulp paper effluent and its application for ferti-irrigation | <b>Department of Biotechnology (DBT),</b><br>Government of India       | 2007-2011  |
| 16. | Bacterial degradation of lignin and pentachlorophenol for pulp paper effluent decolourisation and its application for aquaculture and ferti-irrigation                            | <b>Ministry of Environment and Forests (MoEF),</b> New Delhi           | 2007-2011  |
| 17. | Elucidate the bacterial molecular mechanism for degradation of melanoidin during detoxification of distillery effluent for zero pollution discharge technique                     | <b>CSIR-Network Project</b>  | 2007-1012  |
| 18. | Investigation of Environmental Toxicity of Distillery and pulp paper mill pollutants by Metagenomics approach from contaminated site  | <b>Vam Organic chemical Ltd.</b><br>(Industry)                         | 2007-2012  |
| 19. | Degradation and decolourisation of post methanated distillery effluent in biphasic treatment system using bacteria and wetland plant for environmental safety.                    | <b>Council of Scientific &amp; Industrial Research,</b> New Delhi      | 2010-2012  |
| 20. | Metabolite characterization and detection of functional genome of melanoidin degrading enzyme involved during the decolorization of post methanated distillery effluent           | <b>Department of Biotechnology (DBT),</b><br>Govt. of India            | 2011-2014  |
| 21. | Study the bioremediation and metagenome of persistent organic compounds of pulp paper mill waste contaminated site in different environmental conditions                          | <b>University Grants commission (UGC),</b> New Delhi                   | 2012 -2015 |
| 22. | Field scale demonstration of pulp paper mill effluent detoxification after secondary treatment by combination of biostimulation and constructed wetland treatment process         | <b>Department of Science &amp; Technology (DST),</b><br>Govt. of India | 2014- 2017 |

|     |  |   |                           |
|-----|--|---|---------------------------|
| 23. | Study the biofilm formation in bacterial community, detection of quorum sensing molecules and their gene expression during bioremediation of chlorolignin pollutants discharged from pulp paper industry.                                | <b>Department of Science &amp; Technology, Govt. of India</b> | Nov 2015-continue.....    |
| 24. | Optimization of Post Methanated Distillery Effluent (PMDE) TDS Reduction for Development of Decolourisation and Detoxification Technique in Two Step Treatment Process Using Bacteria and Constructed Wetland Plant Treatment            | <b>Department of Biotechnology (DBT), Govt. of India</b>      | March, 2017-continue..... |
| 25. | Development and demonstration of pulp paper mill effluent detoxification technology after secondary treatment by combination of bio-augmentation and constructed wetland treatment process for re-use and prevention of river pollution. | <b>Department of Biotechnology (DBT), Govt. of India</b>      | May 2018 -continue.....   |

#### 16. Honors/Recognition:

1. **Awarded “Dr. APJ Abdul Kalam Award”** for his outstanding services achievements and contribution at a seminar on “Economic Growth & National Unity” by Friendship Forum (Regd.) at Delhi on **March 20, 2018**.
2. **Awarded “Dr. APJ Abdul Kalam Award”** for his Outstanding Individual Achievements & Distinguished Services to the Nation by Ch. Randhir Singh, Hon’ble Former Governor of Sikkim at a seminar on “Economic Growth and National Unity” by Friendship Forum (Regd.) at Delhi on **March 20, 2018**.
3. **Award** of outstanding contribution for the development of University (Contribution of highest h-index in research) (**2018**)
4. **Awarded** by University for Outstanding Services for the Development of University By **BBAU, Lucknow (2017)**
5. **Merit Certificate** for Best Research Contribution By **BBAU, Lucknow (2014)**
6. **Fellow**, Association of Microbiologists of India (**AMI**) (**2013**)
7. **Fellow**, The Biotech Research Society of India (**BRSI**), (**2013**)
8. **Fellow**, The Academy of Environmental Biology (**AEB**), Lucknow (**2008**)
9. **Merit for leadership development programme** awarded by CSIR, Gov. of India (**2008**)
10. **Strategic R&D Management in CSIR** awarded by CSIR, Gov. of India (**2008**)
11. Member of **Academy Advisory Board** in Life Sciences, **The Energy and Resources Institute (TERI)**, New Delhi (**2009**)

#### 17. International Collaboration/Visit:

- Attended NEDO programme on “Industry and Environmental Protection for India” at “The Association for Overseas Technical Scholarship (AOTS)”, JAPAN, Oct 30- Nov 18, 2000.
- Offered a training programme to **Dr. H. Halfmier** under **DAAD-exchange programme** on topic **Microbial removal of waste gases from industrial waste** during Dec, 1996 - Jan, 1997.

- Offered a training programme to **Prof. (Mrs.) Edna I. Chukwara**, Asst. Prof. from NIGERIA under **CSIR TWNSO** fellowship postdoctoral research on topic **Physico-chemical and Bacteriological analysis of tannery effluent during treatment system at Unnao, India** during Jan –April, 2004.
- Offered a training programme to **Mr. Bamidele Tolulope Odumosu**, Under **CSIR-TWAS** fellowship for Ph.D Program on the topic “**Molecular characterization of multidrug resistant *Pseudomonas aeruginosa* isolated from hospital**” in six southwest states of Nigeria from April 7, 2011 to April, 2012

#### 18. Attended/ Participated in conference outside country (2019)

- **Prof. Ram Chandra** attended international conference on “Global Conference on Plant Science and Microbial Ecology” and delivered a lecture as **Keynote speaker on “Health hazards of pulp paper mill waste containing residual organic pollutants on environment and their detoxification by biostimulation and phytoremediation process”** held during June 22, 2019 at **Valencia, Spain**.

#### 19. Organized National/International Conference/Workshop

- 58<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI) & International Symposium on “Microbes for Sustainable Development: Scope and Application” during November 16-19, 2017 at BBAU, Lucknow, U.P.
- National Workshop on Agricultural Research with Relation to IPR (ARRIPR) during August 30-31, 2017 at BBAU, Lucknow, U.P.



#### 20. Glimpses of Important Events/Honours

Prof. RAM CHANDRA Receiving the Fellow Academy of Environmental Biology-2008



Receiving the Appreciation from Governor of U.P. his excellency Shri. B. L. Joshi, 2014



Prof. RAM CHANDRA receiving the FAMI Award- 2013



Prof. RAM CHANDRA receiving the Fellow Award, BRSI- 2013



Releasing of Authored Book on Distillery Waste Management



Invited Speaker by CST-UP for Popular Lecture



Date: August 31, 2019

(PROF. RAM CHANDRA)