

## CURRICULUM

**Dr. RAJESH PANDEY**

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### Academic qualification

**Ph.D : 2012**, in **Biochemistry** from Rani Durgawati University. Jabalpur, M.P. India.

Guidance: **Prof. Surendra Singh, Rani Durgawati University, Jabalpur (M.P.).**

**Research Topic:** Studies of evaluation of Spirulina and its formulation with certain medicinal plant for the regulation of hypercholesterolemic disorders.

**M.Sc. 2004**, in **Applied Biochemistry** from **Cancer Hospital and Research Institute**, (Jiwaji University), Gwalior, MP, India, 61%.

**B.Sc. 2002**, with Chemistry, Botany and Zoology, from Jain Degree College, (Jiwaji University), Gwalior, MP, India, 65%.

**Higher Secondary: 1999**, with Biology from MP Board, Bhopal, 61%.

**High School: 1997**, with Science from MP Board, Bhopal, 59%.

#### **Research Summary:**

My research has been focused towards the evaluation of anticholesterolemic response of dietary *Spirulina platensis* and anti cholesterol potential medicinal plants (*Terminalia Arjuna*, *Boswellia serrata* and *Zingiber officianalis*) individually and in formulated form (FA, FB, FC and FD). The best screen out formulation from these compared with potent cholesterol regulatory allopathic drug Atorvastatin against high fat rich diet (HFD) induced in hypercholesterolemia. *Spirulina platensis* (*Arthrospira*), a filamentous, unicellular alga, is a cyanobacterium grown in certain countries as food for human and animal consumption. It is also used to derive additives in pharmaceuticals and foods. This alga is a rich source of proteins, carbohydrates, essential fatty acids, vitamins, minerals, carotenes, chlorophyll *a* and phycocyanin and other nutrients. Its main use, therefore, is as a food supplement. *Spirulina* is gaining more attention from medical scientists as a nutraceutical and source of potential pharmaceuticals. Hyperlipidemia or hypercholesterolemia is one of the important causes of coronary heart disease and coronary artery disease. Continue epidemiological studies had established a direct relationship between serum cholesterol and coronary disease directly and indirectly.

The primary drugs used in the treatment of hypercholesterolemia are statins and their substitute. In most cases, these drugs have been proved to be of only limited value and shown various undesired side effects. They often suppress the symptoms, but accelerate factors that promote the disease. However, patients frequently become unable to continue long-term treatment with these agents due to toxicity and/or loss of benefit.

Despite increased use of these combination therapies; new treatments for active hypocholesterolemia are clearly needed. Although the underlying pathophysiology of active higher cholesterol remains to be fully elucidated, it is well recognized that it includes increases the lipid profile TC, TG LDL, HDL, VLDL and alter the antioxidant SOD, TBARS, GSH, CAT status.

My work has primarily involved in development with characterization of high fat rich diet induced hypercholesterolemia in rat. HFD was introduced for induction, after accalamitiazton of

animals. Animals were characterized on the basis of biochemical/hematological parameters by determining the profiling of liver, kidney etc. Cellular antioxidant status was also examined via measuring the level of SOD, TBARS, GSH and CAT. Organ pathology was studied by histology of vital organs with staining of H&E. Other than these other routine parameter includes changes of intake diet volume and weights of animals are also monitored. I successfully develop and standardized the hypercholesterolemic model and study the preventive efficacy of dietary *Spirulina* and all prepared formulation by feeding with cannula. Our finding shows the preventive role of *Spirulina* and medicinal plant (formulations) against hypercholesterolemia.

### Teaching Experience

- **Faculty in Biochemistry, Awadhesh Pratap Singh University, Rewa M.P., from Aug. 2011 to onwards.**
- **Department of Bioscience R.D. University, Jabalpur from July 2006-April 2008.** Regularly associated in post graduate teaching subject: Molecular biology, Microbial Biochemistry, Nutrition Biochemistry, Genetics, Techniques in Biology, Cell Biology & Metabolism during research.

### Administrative Experiences

- Experience as Scientific Officer in Hash Biotech Labs Pvt. Ltd. Chandigarh, Punjab., June 2008-June 2010. (2 years).
- Experience as Quality Control Officer in Hash Biotech Labs Pvt. Ltd. Chadigarh, Punjab., from July 2010-June 2011. (1 years).

### Present Status

**Guest Faculty in Department of Biochemistry, Awadesh Pratap Singh University, Rewa, M.P. from Aug. 2011 to onwards.**

### **Research/Technical Experiences**

- Research experience in field of microbial/microalgal/Cyanobacterial/ Biochemistry and Biotechnology. plant/animal Biochemistry/clinical practices.
- Clinical trials, extraction, isolation, Herbal/algal/combinations/formulations/doses screening/selection/standardization, validation, phototherapy.
- Research experience in field of analysis/diagnosis of Diabetes, hyper cholesterol & its treatment by herbal therapy of (Diabegon D-400) with collaboration of Dindyal Research Foundation, Gwalior, India. (1year).
- Experience in field of animal handling under IAEC regulations.
- Provide training to women under UGC Granted Certificate scheme for income generation and women empower development during 2006.
- Provide laboratory training to top higher secondary students for Innovation in science persuit for inspired research (INSPIRE) Sponsored by DST, New Delhi from 05-09 Dec 2016.

**Total Research Experience along with Teaching and technical Skill: 7 years**

### **Area of Specializations**

- Nutritional and Clinical/Blood Biochemistry/clinical trials, diagnosis, doses screening, designing of drugs, Microbial biochemistry/biotechnology, herbal drug formulations, food supplement designing/combinational study, (algal, plant metabolites, extraction, purification, comparison, bioactivity measurement) etc.
- Cyanobacterial biofertilizers, immobilization, Algal, micro-algae, Cyanobacterial Biotechnology/Biochemistry, micro-algal (*Spirulina*, *Heamatococcus*) cultivation, indoor and outdoor, scaling up biomass for pilot & commercial level, culture health and hygiene monitoring study, rectification of industrial level problems.
- **Phycobiliproteins (Phycocyanin)** isolation, purification, grading,
- **DNA cleavage/DNA binding**, synthesis of metalloproteins, etc.
- **NABL,NABH, CGMP, ISO, SOP, FDA, Quality measure, GLP, Halal and Fassai** etc for Hospital, Nursing home. R & D, Biotech, life Science, diagnostic and Pharmaceutical Laboratories and industries.

### List of Publications (International/ National/ UGC listed)

1. **Rajesh Pandey**, Narendra Kumar, Mukesh Yadav, Ravinder Nagpal, Shalini Jain and Hariom Yadav (2013). Anti-Diabetic Compounds and Their Patent Information: An Update, *Recent patents on Inflammation and Allergy Drug Discovery*. 2013, 7(1): 35-48.
2. **Rajesh Pandey**, Narendra Kumar, Seema Paroha, Ram Prasad, Mukesh Yadav, Shalini Jain and Hariom Yadav (2013) Impact of obesity and diabetes on arthritis: An update, *The Health*, 5(1): 143-156.
3. R.N Patel, SP Rawat, MK Chaudhary, KK. Shukla, VP. Sondhiya, DK Patel, Y. Singh, and **Rajesh Pandey** (2012) Mixed ligand copper(II) and nickel(II) complexes with ONO donor Schiff base: evaluation of DNA binding, DNA cleavage, antimicrobial and superoxide dismutase activity. *Inorg. Chim. Acta*. 392 (2012) 283-291.
4. RN Patel, A. Singh, KK. Shukla, VP. Sondhiya, DK Patel, Y. Singh and **Rajesh Pandey** (2012) Design, synthesis and characterization of a series of biologically active copper(II) Schiff base coordination compounds *J. Coordination Chemistry*, 65(5): 795-812.
5. R.N Patel, A. Singh, KK. Shukla, VP. Sondhiya, DK Patel, Y. Singh and **Rajesh Pandey** (2012) Synthesis, characterization and biological activity studies of nickel (II) complexes with tridentate Schiff base derived from heterocyclic aldehyde, *J. Coordination Chem.* 65(8): 1381-1397.
6. **Rajesh Pandey** and Narendra Kumar (2012) impact of high dietary fats on serum cholesterol and development of fatty liver in rats. *Int J of Pharma Sci and Res.* 3(9): 3175-3178.
7. **Rajesh Pandey** and Sunil K Pandey (2012) Investigations of Physico-chemical status of ground water of Singrauli district MP. India. *Int J of Pharma Sci and Res.* 3(10): 3823-3828.
8. Sunil K Pandey and **Rajesh Pandey** (2012) Cadmium monitoring among some plant and vegetable species in Singrauli region of Madhya Pradesh. *Int J of Pharma Sci and Res.* 3(11): 4482-4488.
9. R.N Patel, V P. Sondhiya, KK Shukla, DK Patel, Y. Singh, and **Rajesh Pandey** (2012) Synthesis, characterization and bioactivities of new copper(II) complexes of N'-[(1E)pyrrol2-ylmethylidene]pyridine-3-carbohydrazone. *J. Indian chemical Soc.*, (2012) 1-8.
10. **Rajesh Pandey**, Ved Prakash Singh and Sunil K Pandey (2012) Lead (Pb) accumulation study in plants and vegetables cultivates around coal mines and power plants of Singrauli district. *Int. J of Pharmal Sci and Res.* 3(12): 5079-5086.
11. **Rajesh Pandey**, Niti Mishra Narendra Kumar and Vinod Singh (2012) Management of plasma glucose status and insulin secretion with traditional phytoremedy: A herbal drug interaction approach in *conference proceeding RNTCE* pp 150-156.

12. **Rajesh Pandey** and Sunil K Pandey (2014) Trace metal accumulation in vegetables grown in industrial and semi-urban areas of Singrauli district of Madhya Pradesh India *Int. J of Pharmal Sci and Res.* 5(12): 5518-5529.
13. **Rajesh Pandey**, Narendra Kumar and Vinod Singh (2014) In-vitro microbial susceptible activity of *Spirulina platensis* against human and plant pathogens. *Int. J. of Research.* 4(4):28-31.
14. **Rashmi Patel**, **Rajesh Pandey** and Sunil K Pandey (2015) Seasonal physico-Chemical Analysis of drain water discharge in mandakini river of Chitrakoot, India *Int J of Green and Herbal Chem* 4(1): 116-124.
15. **Rajesh Pandey** and Manish K Dwivedi (2015) Screening of the liver diseases in urban area with special reference to Bilirubin and Iron, *Int. J of Pharmacy and Pharm Res.* 2(4):29-41.
16. **Rajesh Pandey** and Sunil K Pandey (2015) Operational Power Plants Based Impacts on plant Biodiversity to measure atmosphere degradation in Singrauli district, Madhya Pradesh (India) *Int J of Life Sci and Review*, 1(5): 199-206.
17. **Rajesh Pandey** (2015) Heavy metals Investigation in productivity parts of wheat crops during winter seasons in Singrauli district of Madhya Pradesh India: A Case Study, *Int J of Green and Herbal Chem.* 4(1): 208-220.
18. **Rajesh Pandey**, Pradeep K. Singh, Sunil K Pandey, Bhavana Singh and Babbu lal Patel (2015) Biological variation on plants and plants product via accumulation of Cd and their derivative as biotoxicant:A Review. *Int J of Geen and Herbal Chem.* 4(3): 370-388.
19. **Rajesh Pandey**, Sunil K Pandey, Manish K. Dwivedi, Pradeep K. Singh, B.L. Patel, Anita Patel, Balendra Patel and Bhavana Singh (2016) Chromium Cr (III) and Cr (VI) Impact :A Health Prospective Review. *Int J of Geen and Herbal Chem.* 5(4): 403-412.
20. **Rajesh Pandey**, Manish K. Dwivedi, Pradeep K. Singh, B.L. Patel, Sunil K Pandey, Balendra Patel Effluence of Heavy metals, Anita Patel, and Bhavana Singh (2016). *J. Chemistry and Chemical Sci.* 6(5): 458-475.
21. Surendra Singh, Archita Ganguly, **Rajesh Pandey** and Richa Gupta (2006) Growth and Survival of *Spirulina platensis* outdoors. *Vislesana Sci. J.* 10B(2): 39-48.
22. Babbu lal Patel, Pradeep Kumar Singh, Yogendra Pratap Singh and **Rajesh Pandey** (2019). Bioaccumulation Study of Heavy Metals Content in Vegetable and Fruits Growing Irrigated Water Samples around Singrauli, India. *J of Chemistry and Chem. Sci.* 9(9): 262-273.
23. Rajesh K. Patel, P.K. Singh, Arunima Sharma, **Rajesh Pandey**, Babbulal Patel and Sandeep Mishra (2020). Methyl Parathion Residue in Bovine Milk Collected from Different Tehsil of Singrauli District. *J of Chemistry and Chemical Sci*, 10(12): 355-362.

24. Rajesh K. Patel, P.K. Singh, **Rajesh Pandey**, Sandeep K. Soni, Babbulal Patel and Sandeep Mishra Heavy metals as valuable contaminants and assurance measure of bovine milk for health prospects: An update, *Int. J of Pharma. Res. and Application*. 6(2):135-140.
25. Rajesh K. Patel, P. K. Singh, **Rajesh Pandey**, Babbulal Patel and Sandeep Mishra (2021) Amino acid Status of Bovine Milk under Seasonal Variation around Singrauli District, *Int. J of Chem. Res.* 5(3):1-4.
26. Rajesh K. Patel, P. K. Singh, **Rajesh Pandey**, Sandeep Mishra, Sandeep K Soni and Babbulal Patel and (2021) Impact of Methyl Parathion Organophosphate Pesticides Residues on Human Health and Environment as Toxicological Outcome, *Int. J Scientific Res. in Chemistry. Res.* 6(2):12-23.
27. Sandeep K. Soni and **Rajesh Pandey** (2021). Interaction of Hazardous heavy Metals with Human and Environment and their Toxicological Impacts, *Int. J. of Sci Res. in Biological Sci.* 8(5): 39-45.
28. Rajesh K. Patel, **Rajesh Pandey** and Babbulal Patel (2021) Amino acid Profiling ND Protein Content determination of Bovine Milk Collected from Different Tehsil of Singrauli District, *Int. J Pharma. Res.* 12(12):6522-6529.
29. Sandeep Mishra, P.K. Singh, **Rajesh Pandey**, Sandeep K. Soni, Babbulal Patel and Rajesh K. Patel (2022) Beneficial and toxicological response of Oxytocin with stability, detection, marketing and authorization: *a receptor mediates Approach.* *Int. J Scientific Res. in Chemistry. Res.* 7(1):23-32.
30. Pradeep Kumar Singh, Babbu lal Patel and **Rajesh Pandey** (2015) Impact of Contaminated industrial waste water in seed growth rate of some crop plants: *A review. Research J Vicharika*, 1: (1) 11-16.
31. **Rajesh Pandey** and Surendra Singh (2022) *Spirulina* and Herbal Combination on Metabolic Alterations of Cardiovascular Diseases (CVDs). *Int J of Research and Review*, 9(3): 308-318.
32. Surendra Singh and **Rajesh Pandey** (2022). Individual and combined free radical scavenging response of *Spirulina* with combination of *Ginger* against HFD induced hypercholesterolemia. *J Innov. and Emeg. Technol.* 2(5):123-135.
33. **Rajesh Pandey** and Surendra Singh (2022). Response of *Spirulina* supplementation in lipid profile against hypercholesterolemia and associated complications. *Int. J of Pharma Res. and Health Sci.* Accepted.
34. **Rajesh Pandey**, Narendra Kumar and Hariom Yadav (2023) Nutraceutical modulators of endocannabinoid system for beneficial effects on obesity and diabetes. *Banthum Sci Press. Under Review.*

## Paper presented/incorporated in National/International Conferences/Seminar

1. Surendra Singh, Dheeraj Khatarkar, Archita Ganguly, Manisha Mahra and **Rajesh Pandey** (2006) “Evidence for Enhancement in Seed germination, establishment of seedling and growth of Aswagandha, Muskdana, and Isabgol following treatment with Biofertilizer” Paper presented in International Conference on Applied Phycology “Algae in Biotechnology and Environment” held at Delhi University Delhi, 14-15 Jan, 2006.
2. Surendra Singh, Pallavi Datta, Archana Tirkey and **Rajesh Pandey** (2008) Improvement in a Multiple Herbicide Resistant Strain *Anabaena variabilis* Paper presented in National Conference on current Trends in Algal Biodiversity & Biotechnology 7-8, Feb, 2008, organized by CAS Botany University of Madras, Chennai, India,
3. Surendra Singh, Pallavi Datta, Archana Tirkey and **Rajesh Pandey** (2008) Impact of Biofertilizer, Vermicompost and Chemical Fertilizer on Seed Germination and Grain Yield of Wheat and Mustard Plants National Conference on current Trends in Algal Biodiversity and Biotechnology 7-8 Feb 2008, organized by CAS Botany University of Madras, Chennai, India.
4. **Rajesh Pandey** and Narendra Kumar (2011) Impact of Cyanobacterial polysaccharide in controlling of plant pathogens: A eco-friendly approach. **Paper presented in National Seminar on Expanding Horizons Chemical Sciences held at** Department of Chemistry and Biochemistry, APS University Rewa (MP) India during 22 - 23 Oct, 2011.
5. **Rajesh Pandey** and Surendra Singh (2011) Biodiversity of Blue green Algae (cyanobacteria) with special reference to bark: a neglected habitat, Seminar on Global warming & Biodiversity Conservation, organized by JCDAV College, Dasuya Hoshiarpur P.B. 27-28 Jan, 2011.
6. **Rajesh Pandey** and Surendra Singh (2007) Spirulina: A Natural antioxidant system against ROS and regulation of Hypercholesterolemic disorder organized by SBAM, Microtech-2007, R.D. University, Jabalpur, M.P. 19 NOV, 2007.
7. **Rajesh Pandey** and Surendra Singh (2008) Role of nano particles in drug delivery and action, Nanotech-2008, organized by Cancer Hospital and research Institute, Gwalior, M.P., 28 Feb, 2008.
8. **Rajesh Pandey**, Niti Mishra and Narendra Kumar (2012) Nutraceutical and pharmaceutical potentials of small mellets Paper presented in National Conference on, held at Govt. O.F.K. College Jabalpur (M.P) during 15-16, Feb 2012.
9. **Rajesh Pandey**, Niti Mishra and Narendra Kumar (2012) Nutritional and Therapeutic potential Soyabene and soya products, Paper presented in Regional Workshop on Soy Processing and utilization for food security held at Govt. O.F.K. College Jabalpur (M.P) during 15-16, Feb 2012.

10. **Rajesh Pandey**, Narendra Kumar and Vikas Shrivastava (2011) Regulation of plant pathogens by Cyanobacterial polysaccharide Paper presented in National Seminar on chemistry and Environmental toxicity, held at Govt. Girls College, Satna (MP) during 15-16 Oct 2011.
11. Vinod Singh, Narendra Kumar and **Rajesh Pandey** (2012) Biotechnological potential of cyanobacteria Paper presented in National Seminar on Biotechnology and Biodiversity held at Govt. Science College, Rewa (MP) during 13-14 march 2012.
12. **Rajesh Pandey**, Narendra Kumar and Vinod Singh (2012) Risk Profile of myocardial infarction among labour class patients of NIDDM in Rewa district Paper presented in National Seminar on Biotechnology and Biodiversity held at Govt. Science College, Rewa (MP) during 13-14 march 2012.
13. **Rajesh Pandey**, Niti Mishra Narendra Kumar and Vinod Singh (2012) Management of plasma glucose status and insulin secretion with traditional phytotherapy A herbal drug interaction approach Paper presented in Nation conference on role of new technologies in conversion of environment during 23-24 march 2012.
14. **Rajesh Pandey** and Niti Mishra (2012) Pregnancy with diabetes mellitus and its management, Paper presented in Nation conference on role of new technologies in conversion of environment during 23-24 march 2012.
15. **Rajesh Pandey**, Niti Mishra Narendra Kumar and Vinod Singh (2012) Potential exploitation of cyanobacterial species in bioremediation of house hold water Paper presented in Nation conference on role of new technologies in conversion of environment during 23-24 march 2012.
16. **Rajesh Pandey**, Niti Mishra Narendra Kumar and Vinod Singh (2012) *Spirulina* (blue green algae) as bioremediation agent: Metal interaction, utilization & conversion Paper presented in Nation Seminar on Conservation and Management of Indian Rivers, 30-31 march 2012.
17. **Rajesh Pandey and Surendra Singh** (2012) Algal Compound (*Spirulina*) for recovery and healing of Arthroma during hypercholesterolemia Paper presented in Nation Seminar on Recent trends in drug discovery and research sponsored by ICMR, New Delhi. Organised AKS University, 30 Sep. 2012.
18. Narendra Kumar, Niti Mishra and **Rajesh Pandey** (2012) Evaluation of indian flower Sp. *Rosarubiginosa* with special reference to Anti-inflammatory compounds Paper presented in Nation Seminar on Recent trends in drug discovery and research 30 Sep. 2012.
19. **Rajesh Pandey** (2012) Biochemical & Toxicological evaluation of Avocado fruits on HFD induced Hypercholesterolemic rats, Paper presented on National Conf. on Recent Advances in Chemical Sciences; Emphasis on Healthy Life, organized by ITM University Gwalior M.P. 21-22 Sep 2012.
20. **Rajesh Pandey** (2013). Natural Compound for Cervical Cancer National Conf. on Human Papillomavirus and Control of Cervical Cancer- Current Scenario (HPVCON



2013) Sponsored by UGC & MPCST, Bhopal, organized by CHRI, Gwalior, 16-17 March, 2013.

21. Manish K. Dwevedi, **Rajesh Pandey**, Neeti Mishra and Narendra Kumar (2013) Viral infections Hepatitis B (HBV) and Hepatitis C (HCV) development in chronic infection Early viral fever diagnosis with simple home remedies National Conference on Human papillomavirus and control of cervical cancer-current scenario, 16-17 March 2013.
22. Shriti Gupta, Sagar Jaiswal, **Rajesh Pandey**, Neeti Mishra and Narendra Kumar (2013) Early viral fever diagnosis with simple home remedies National Conference on Human papillomavirus and control of cervical cancer-current scenario, 16-17 March 2013.
23. Susmita Dwivedi, Vijay Dahiya, **Rajesh Pandey**, Neeti Mishra and Narendra Kumar (2013) Cu and Ni (inorganic-Complexes) with amino acids for the design of antiviral drugs Early viral fever diagnosis with simple home remedies National Conference on Human papillomavirus and control of cervical cancer-current scenario, 16-17 March 2013
24. Jainendra Singh, Manish K. Dwevedi, **Rajesh Pandey**, Neeti Mishra and Narendra Kumar (2013) Investigation and evaluation of *in vitro* antioxidant status of Berries of Indian sub-continent during growing phases, VIII National Conference on Biotechnology Biodiversity & Environment 19-20 April 2013.
25. Jeetesh Sahu, **Rajesh Pandey**, Neeti Mishra and Narendra Kumar (2013) Hypocholesterolemic and hepatoprotective impacts of indian Sighada against HFD hypercholesterolemia, VIII National Conference on Biotechnology Biodiversity & Environment 19-20 April 2013.
26. Shiwani Awasthi, Rama Sharma, **Rajesh Pandey**, Neeti Mishra and Narendra Kumar (2013) Lipid per-oxidation and antioxidant enzymes status in case of Coronary Artery Disease (CAD), VIII National Conference on Biotechnology Biodiversity & Environment 19-20 April 2013.
27. Neeti Mishra, **Rajesh Pandey**, Narendra Kumar, Vinod Singh and Harsiom Yadav (2014) Recovery of severe disease with management of antioxidant and micronutrients, National Seminar on Innovations in Science and Technology for Inclusive development, organized by MPCST, Indian Science Congress Bhopal Chapter 26-27 March, 2014.
28. Manish K Dwivedi and **Rajesh Pandey** Clinical and Biochemical evaluation of *Spirulina* in formulations with *Terminalia arjuna* plant with special reference to high fat rich diet induced hypercholesterolemia, International Conference on CDRI, Lucknow. 30-31 March, 2014.
29. **Rajesh Pandey** and Narendra Kumar (2014) Endocannabinoids & its therapeutic exploration on obesity, National Seminar on Innovations in Science and Technology for Inclusive development, organized by MPCST, Indian Science Congress Bhopal Chapter 26-27 March, 2014.

30. **Rajesh Pandey** and Surendra Singh (2014) Natural Therapy and Immunological Disorders, National CME Biochemical Insight into Clinical Immunology, organized by dept of Biochemistry, AIIMS, Raipur C.G., 21-22 March 2014.
31. **Rajesh Pandey**, P.K. Singh and Babbu Lal Patel, Anita Patel and Manish K. Dwivedi (2015) Identification and Quantification of Non-Point Sources of pollution concern to drinking water of Singrauli District. National Conf. on Water Resource Management 20-21 Jan 2015 Dept of Bioscience, RD University, Jabalpur (M.P.).
32. Rajendra Shukla, Hariom Mishra and **Rajesh Pandey** (2015) Heavy metals in drinking water and their environmental impact on human health National Conf. on Water Resource Management 20-21 Jan 2015 Dept of Bioscience, RD University, Jabalpur (M.P.).
33. Pradeep K Singh, Babbulal Patel and **Rajesh Pandey** (2015) Nanotechnology based tools in water treatment and refinement: prospective applications and implications 20-21 Jan 2015 Dept of Bioscience, RD University, Jabalpur (M.P.).
34. **Rajesh Pandey** and Surendra Singh (2017) Physiological biotic and stress on algal species and their effect on Nutrient profile of *Spirulina platensis*, International conf. on molecular Biology of Stress Responses in Phototrophs, organized by IGNT University, Amarkantak, M.P., India
35. **Rajesh Pandey** and Surendra Singh (2017) Hypercholesterolemic effect of Algal herbal therapy against HFD induced rat, National Conf. on Frontier Research in Natural Products Opportunities & Challenges, organized by AKS University, Satna, M.P., 3-4 Feb, 2017.
36. **Rajesh Pandey** and Surendra Singh (2017) Hypercholesterolemia recovery through Algal and herbal constituents against HFD, international Conf. on Make in India An opportunity for Sustainable Entrepreneurship Development, organized by Career college, Bhopal, M.P., 16-17 Feb, 2017.
37. **Rajesh Pandey** and Surendra Singh (2017) Endocannabinoids and its therapeutic exploitation on obesity, X national conferences on Frontier Discoveries and Emerging opportunities on Medicinal Plants, Environment, Biotechnology, Ayush and Biomedicine for Human Health and Sustainable Development organized by Govt. New Science College, Rewa, M.P. 25-26, March, 2017.
38. **Rajesh Pandey** and Surendra Singh (2017) Beta-1,3 and 1,6 glucans as modulators of immune system through *Spirulina*, International Conf. Natural Resources, Environment and Health, Sponsored by NASI, organized by Science College, Rewa, M.P., March 28-29, 2017.
39. **Rajesh Pandey** and Surendra Singh (2018) Combinational Study of *Spirulina* and Ginger against HFD induced Hypercholesterolemia, International Conf on Advances in Chemical Sciences and Allied Field of Science, Health, Education & Environment (ACAEE:2018), Sponsored by MPCST and Royal Society of Chemistry, organized by Career College, Bhopal, M.P., 8-10 March, 2018.

### **Workshop/Instrumental Training/Orientation/Refresher Course/FDP**

1. Two week training on learning of Bioinformatics tools & programming techniques for teaching & research purpose, **Sponsored by Department of Biotechnology (DBT), India.** During 9<sup>th</sup> -21<sup>th</sup> march 2012.
2. National workshop on Machine learning & data mining techniques in bioinformatics Sponsored by **Department of Biotechnology (DBT), India.** During 1-4<sup>th</sup> march 2012.
3. Participated 87 Orientation Programme from 15 April 2013 to 11 May 2013, from Academic Staff College R.D. University Jabalpur, Sponsored by **UGC.**
4. **Training Programme (21 days)** on Molecular Techniques in Species Identification, Biodiversity Conservation & Phylogenetics 10-30 Jan 2013, **Department of Biotechnology (DBT), India.**
5. Workshop on next Generation Sequencing (NGS): A Discussion Forum towards Whole Genome Sequencing and DNA Library Preparation, 15-17 March, 2016, **Department of Science and Technology (DST), New Delhi** and MPCST, Bhopal.
6. Workshop on Analytical Tools and Techniques for Research from 8-14 March, 2016, **University Grant Commission, New Delhi**-under CPE Scheme, organized by Institute of Excellence in Higher Education, Bhopal, M.P.
7. One week workshop on HPLC handling, Recent Trends in Scientific Instrumentations with Skill Innovations & Skill Employability, from 6-11 May, 2016 association with **MPCST and Chromatographic Society of India, Mumbai.**
8. Three days workshop on DNA Bar-coding-Molecular Biology and Molecular Taxonomy, from 1-3 Oct, 2016, organized by SIT group of Institution, Sidhi, M.P.
9. One week workshop on Entrepreneurship Skill for Self Dependency from 20-26 March, 2021 in association with Bhopal Chapter, **National Academy of Science (NASI), India.**
10. **One week Faculty Development Program (FDP)** on Scientific Writing and Research Ethics, from 25-31 Jan 2022, organized by **IES University, Bhopal, M.P.**

### **Aards/Achievements and Distinctions**

1. Awarded "National Science Day 06, by Dept. of Physics & Electronics, R.D. University, Jabalpur (M.P.).
2. Awarded National Science day 2007 held at M.P. Institute of Medical Sciences, Sponsored by Ministry of Science and Technology Govt. of India, New Delhi.
3. Microtech Young Scientist Award 2007 Department of Bioscience Rani Durgawati University, Jabalpur (M.P.).
4. Awarded on National Seminar Nanotech-2008 by MPCST, Bhopal.

### **Association with foreign/National Professional Bodies**

- **Dr. Lia Brachy:** University of Pavia, Montecatany, Italy, Rome
- **Dr. S. Singh:** (Scientist E, ICMR, Bhuvneswar)
- **Dr. H. Yadav:** National Institute of Health, National Library of Medicine. Myarland, USA.
- **Dr. L. Kori:** NIMR, Newdelhi, India

### **Memberships of Scientific foundation/ Research Association**

- Association of Clinical Biochemistry of India (ACBI):
- Indian Phycological Society (IPC)

### **Editorial Board/ Reviewer of the Journals**

- World Journal of Agricultural Research
- International Journal of Pharmaceutical Science and Research
- Journal of Pharma and Clinical Biology
- International Journal of Life Science and Review
- Journal of Periodic Research

### **Technical consultancy/ problem resolving/ Practical Skills**

- ISO documentation and Lab establishment, NABL Certification for Lab establishment, Halal, CGMP, GMP certification based documentation and Lab establishment, PFA, FDA, FSSI based investigation.
- Isolation, Purification, Characterization and maintenance of microorganisms from different growing habitats,
- Quantitative and Qualitative analysis of Biomolecules, Carbohydrate.
- Techniques of Immunology (RIA, ELISA, detection of Ag-Ab complex, Agglutination, Precipitation etc).
- PCR (Polymerize Chain Reaction)- Pom top Based Rial Time PCR
- Electrophoresis (vertical, horizontal & submergible Agarose and PAGE).
- DNA Binding/ DNA Cleavage/Stability behaviour, separating analysis,
- Types of Investigation (Hematological, Pathological, Enzymatic, Clinical, nutritional & microbiological).
- Chromatographic Analysis (Paper, TLC, Column, Gas & HPLC).
- Gas chromatography (FID, TCD Based) Column Chromatography (cartridge based).
- Atomic Absorption Spectroscopic analysis (AAS for metal concentration).
- Spectrophotometer (UV-VIS, Nonodrop or UV CV), Flame Photometer
- Clinical/blood chemistry with Diagnostic test.

- Basic Microbiological Applications (growth, detection, identification, culturing, Maintenance Pathogenic test, Antimicrobial sensitivity drug inhibitory test etc).

**Instrument Handled concern to: Chemistry, Biochemistry, Microbiology, Immunology, Heamatology and Biotechnological, Pharmaceutical and industrial applications.**

Gas Chromatograph (CIC Baroda), HPLC (Chomito and Labonices), Atomic absorption (Labonices), UV-Vis spectrophotometer (Systronic 138 & 2201), Fully auto Analyzer (Bayer Express plus and Mura 1), Electrotype Analyzer (AVL), Semi Auto Analyzer (RA-50). Blood Gas Analyser, (Mura 3), PCR (Biored), Flame Photometer (Systronic, EI, India), Nano drop Spectrophotometer, Image Analyzer (labomed), Gel doc system, Rotatory Sheker, Electrophoresis (Genei, Banglore), Incubater (Remi, Mumbai), Orbital sheaker (Yarco, Mumbai), Water conductivity meter (Genetix), Milipore, PCR (Bio-red), Sonicator (Soniprep), Oxygen Electrode (Hensatech-UK), Refrigerated Centrifuge (Sigma RMT-22, Remi Mumbai), Industrial centrifuge (Remi, Mumbai), Microfuge (Brackman), Lypholiser, Acta prime, Bench top-C (GE).

**Quality Control Testing of equipments:**

ISO, CGMP, GMP, PFA, FDA, Fassi and Halal certification of food and drug processing and manufacturing

**Documentation for perfect equipments handling and accuracy of results:**

SOP (Standard Operating Procedure). For standrization of equipments and calibrations concern to industrial applications.

**Bioinformatics:**

Familiar with the tools of bioinformatics including, BLAST, FASTA, Swissprot, Entrenz, Clustal W. data mining, Auto dock etc.

**Biostatistics:**

Familiar with the tools of biostatistics including NT sys. (SPSS version 14 and 14.3 Sigma state - 3.5, SPW – 10.0, Graph Pad Software for statistics, etc.

**Computer Skill:**

Fundamental, Operating system, MS-OFFICE, WORD, (Multilingual – 2003, 2007, 2010), MS-Excel, MS-Power Point, Internet Browsing etc.

**References:**

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**Declaration:**

I hereby declare that the above-mentioned information's are true to best of my knowledge and belief.

Date : 17.03.23

Place : Rewa (M.P.)

**(Dr. Rajesh Pandey)**