*Curriculum Vitae*


# Dr. V. K. Kannaujiya

Assistant Professor
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## Academic Qualifications

| S. No. | Degree | Institution | Year |
|---|---|---|---|
| 1. | B.Sc. | Banaras Hindu University | 2007 |
| 2. | M.Sc. | Banaras Hindu University | 2009 |
| 3. | Ph.D. | Banaras Hindu University | 2014 |

## Area of specialization

Phycology, Photobiology, Stress Physiology, Biochemistry, Biotechnology, Proteomics and Molecular Microbiology

## Awards/Recognition

1. Start-Up BSR Research Grant Award by UGC-2018, New Delhi, India
2. National Post-Doctoral Research Award by DST-SERB-2017, New Delhi, India (did not avail)
3. Dr. D. S. Kothari Post-Doctoral Research Award by UGC-2015, New Delhi, India
4. Qualified Graduate Aptitude Test for Engineering (GATE-2009)
5. Qualified National Eligibility Test for CSIR-JRF (2009) and CSIR-NET (2010)

## Current Research Projects

| S. No. | Research Project | Duration | Source | Amount (in Rs.) |
|---|---|---|---|---|
| 1. | Study on photo-oxidative stress-induced enzymatic and non-enzymatic mitigation strategies in cyanobacteria: identification of potent oxidative inhibitor | 2018-2020 | UGC, New Delhi | 10. Lacs |

## Membership of Professional Bodies

Life member, Indian Photobiology Society (LM. No.:211)

## Any Additional Information

Dr. D. S. Kothari Post-Doctoral Fellow at Institute of Interdisciplinary Studies, Nehru Science Centre, Centre of Biotechnology, University of Allahabad, Allahabad, India from 2015 to 2017.

## List of Selected 10 Publications


1. Kumar, D.; **Kannaujiya, V.K.**; Richa; Pathak, J.; Sundaram, S.; Sinha, R.P. (2018) Composition and functional property of photosynthetic pigments under circadian rhythm in the cyanobacterium *Spirulina platensis*. Protoplasma 255, 885-898.

2. Rajneesh; Pathak, J.; **Kannaujiya, V.K.**; Singh, S.P.; Sinha, R. P. (2017) Codon usage analysis of photolyase encoding genes of cyanobacteria inhabiting diverse habitats. 3 Biotech 7, 192.

3. **Kannaujiya, V.K.**; Sinha, R. P. (2017) Impacts of diurnal variation of ultraviolet-B and photosynthetically active radiation on phycobiliproteins of the hot-spring cyanobacterium *Nostoc* sp. strain HKAR-2. Protoplasma 254, 423-433.

4. **Kannaujiya, V.K.**; Sinha, R.P. (2017) Detection of free thiols and fluorescence response of chromophore in phycoerythrin after ultraviolet-B radiation stress. J. Fluoresc. 27, 561-567.

5. **Kannaujiya, V.K.**; Rahman, A.; Adinath; Sundaram, S.; Sinha, R.P. (2016) Structural and functional dynamics of tyrosine amino acid in phycocyanin of hot-spring cyanobacteria: A possible pathway for internal energy transfer. Gene Rep. 5, 83-91.

6. **Kannaujiya, V.K.**; Sinha, R.P. (2016) Thermokinetic stability of phycocyanin and phycoerythrin in food grade preservatives. J. Appl. Phycol. 28, 1063-1070.

7. **Kannaujiya, V.K.**; Sinha, R.P. (2016) An efficient method for separation and purification of phycobiliproteins from rice-field cyanobacterium *Nostoc* sp. strain HKAR-11. Chromatographia 79, 335-343.

8. **Kannaujiya, V.K.**; Sinha, R.P. (2015) Impacts of varying light regimes on phycobiliproteins of *Nostoc* sp. HKAR-2 and *Nostoc* sp. HKAR-11 isolated from diverse habitats. Protoplasma 252, 1551-1561.

9. **Kannaujiya, V.K.**; Richa; Sinha, R.P. (2014) Peroxide scavenging potential of ultraviolet-B-absorbing mycosporine-like amino acids isolated from a marine red alga *Bryocladia* sp. Front. Environ. Sci. 2, 26.

10. **Kannaujiya, V.K.**; Rastogi, R.P.; Sinha, R.P. (2014) GC constituents and relative codon expressed amino acid composition in cyanobacterial phycobiliproteins. Gene 546, 162-171.

## Full list of Publications

## A. Original Research Papers

1. Kumar, D.; **Kannaujiya, V.K.**; Richa; Pathak, J.; Sundaram, S.; Sinha, R.P. (2018) Composition and functional property of photosynthetic pigments under circadian rhythm in the cyanobacterium *Spirulina platensis*. Protoplasma 255, 885-898.

2. Rajneesh; Pathak, J.; **Kannaujiya, V.K.**; Singh, S. P.; Sinha, R.P. (2017) Codon usage analysis of photolyase encoding genes of cyanobacteria inhabiting diverse habitats. 3 Biotech 7,192.

3. **Kannaujiya, V.K.**; Sinha, R.P. (2017) Impacts of diurnal variation of ultraviolet-B and photosynthetically active radiation on phycobiliproteins of the hot-spring cyanobacterium *Nostoc* sp. strain HKAR-2. Protoplasma 254, 423-433.

4. Adinath; **Kannaujiya, V.K.**; Sundaram, S. (2017) Standing stock production by micro-algal consortia for $CO_2$ Sequestration and mitigation. J. Algal Biomass Utln. 8, 118-124.

5. **Kannaujiya, V.K.**; Sinha, R.P. (2017) Detection of free thiols and fluorescence response of chromophore in phycoerythrin after ultraviolet-B radiation stress. J. Fluoresc. 27, 561-567.

6. Adinath; Vajpayee, G.; Dixit, K.; Rahman, A.; **Kannaujiya, V.K.**; Sundaram, S. (2017) Microalgal consortia complexity enhances ecological biomass stability through CO2 sequestration. J. Algal Biomass Utln. 8, 19-34.

7. Pathak, J.; Sonker, A.S.; Richa; Rajneesh; **Kannaujiya, V.K.**; Singh, V.; Ahmed, H.; Sinha, R.P. (2017) Screening and partial purification of photoprotective pigment scytonemin from cyanobacterial crusts dwelling on the historical monuments in and around Varanasi, India. Microbiol. Res. 8, 6559.

8. Sonker, A.S.; Richa; Pathak, J.; Rajneesh; **Kannaujiya, V.K.**; Sinha, R.P. (2017) Characterization and in vitro antitumor, antibacterial and antifungal activities of green synthesized silver nanoparticles using cell extract of *Nostoc* sp. strain HKAR-2. Can. J. Biotech. 1, 26-37.

9. **Kannaujiya, V.K.**; Rahman A.; Adinath; Pathak, J., Sonker, A.S.; Rajneesh; Sundaram, S.; Sinha, R.P. (2016) Cumulative effects of ultraviolet radiation and photosyntheically active radiation on phycobiliproteins of a hot-spring cyanobacterium *Nostoc* sp. strain HKAR-2. Int. J. Appl. Sci. Biotechnol. 4: 247-253.

10. **Kannaujiya, V.K.**; Rahman, A.; Adinath; Sundaram, S.; Sinha, R.P. (2016) Structural and functional dynamics of tyrosine amino acid in phycocyanin of hot-spring cyanobacteria: A possible pathway for internal energy transfer. Gene Rep. 5, 83-91.

11. Sonker, A. S.; Richa, Pathak, J.; Rajneesh; **Kannaujiya, V.K.**; Sinha, R.P. (2016) Mycosporine-like amino acids from biological integuments of historical monuments. Int. J. Curr. Microbiol. Appl. Sci. 5, 30-41.

12. Rahman, A.; **Kannaujiya, V.K.**; Rajneesh; Adinath; Dixit, K.; Sinha, R.P.; Sundaram, S. (2016) Impacts of ultraviolet-B and photosynthetically active radiation on *Anabaena cylindrica* and *Synechocystis* PCC 6803: a comparative study. Int. J. Nat. Sci. 6, 11073-11083.

13. **Kannaujiya, V.K.**; Sinha, R.P. (2016) An efficient method for separation and purification of phycobiliproteins from rice-field cyanobacterium *Nostoc* sp. strain HKAR-11. Chromatographia 79, 335-343.

14. **Kannaujiya, V.K.**; Sinha, R.P. (2016) Thermokinetic stability of phycocyanin and phycoerythrin in food grade preservatives. J. Appl. Phycol. 28, 1063-1070.

15. Richa; **Kannaujiya, V.K.**; Pathak, J.; Sonker, A.S.; Rajneesh; Sinha, R.P. (2015) How cyanobacteria protect themselves from UV-B radiation. Prajna, 60, 11-14.

16. **Kannaujiya, V.K.**; Sinha, R.P. (2015) Impacts of varying light regimes on phycobiliproteins of *Nostoc* sp. HKAR-2 and *Nostoc* sp. HKAR-11 isolated from diverse habitats. Protoplasma 252, 1551-1561.

17. Pathak, J.; Richa; Rajneesh; Sonker, A.S.; **Kannaujiya, V.K.**; Sinha, R.P. (2015) Isolation and partial purification of scytonemin and mycosporine-like amino acids from biological crusts. J. Chem. Phamaceuti. Res. 7, 362-371.

18. **Kannaujiya, V.K.**; Rastogi, R.P.; Sinha, R. P. (2014) GC constituents and relative codon expressed amino acid composition in cyanobacterial phycobiliproteins. Gene 546, 162-171.

19. **Kannaujiya, V.K.**; Richa; Sinha, R.P. (2014) Peroxide scavenging potential of ultraviolet-B-absorbing mycosporine-like amino acids isolated from a marine red alga *Bryocladia* sp. Front. Environ. Sci. 2, 26.

20. Richa; Kumari, S.; **Kannaujiya, V.K.**; Mishra, S.; Sinha, R.P. (2013) Response of a hot-spring cyanobacterium *Scytonema* sp. strain HKAR-3 to ultraviolet-B radiation. Int. J. Curr. Biotechnol. 1, 32-36.

21. Richa; **Kannaujiya, V.K.**; Kumari, S.; Mishra, S.; Sinha, R.P. (2013) Effects of ultraviolet-B radiation on a hotspring cyanobacterium *Nostoc* sp. strain HKAR-2. Acta Biologica Indica 2, 265-276.

22. Richa; **Kannaujiya, V.K.**; Kesheri, M.; Singh, G.; Sinha, R.P. (2011) Biotechnological potentials of phycobiliproteins. Int. J. Pharma Bio Sci. 2, 446-454.

23. Richa; Rastogi, R.P.; Kumari, S.; Singh, K.L.; **Kannaujiya, V.K.**; Singh, G.; Kesheri, M.; Sinha, R.P. (2011) Biotechnological potential of mycosporine-like amino acids and phycobiliproteins of cyanobacterial origin. Biotechnol. Bioinform. Bioeng. 1, 159-171.

## B. Book Chapters

24. Singh, S.K.; **Kannaujiya, V.K.**; Rahman, M.A.; Dixit, K.; Nath, A.; Kapur, S.; Sundaram, S. (2018) Algal Based CO2 Sequestration: A Sustainable Route for $CO_2$ Mitigation. In: The Role of Photosynthetic Microbes in Agriculture and Industry (Eds: Tripathi, K., Kumar, N., Abraham, G.), Nova, USA. (Accepted) ISBN: 978-1-53614-033-0

25. **Kannaujiya, V.K.**; Rahman, M.A.; Nath, A.; Singh, S.K.; Sundaram, S.; Sinha, R.P. (2018) Recent Advances in the Production and Purification Technology of Phycobiliproteins: A Sustainable Approach. In: The Role of Photosynthetic Microbes in Agriculture and Industry (Eds: Tripathi, K., Kumar, N., Abraham, G.), Nova, USA. (Accepted) ISBN: 978-1-53614-033-0

26. Rahman, M.A.; Singh, S.K.; **Kannaujiya, V.K.**; Dixit, K.; Nath, A.; Sundaram, S. (2018) Biosynthesis and Biotechnological Potential of UV-Absorbing Compounds in Microalgae. In: The Role of Photosynthetic Microbes in Agriculture and Industry (Eds: Tripathi, K., Kumar, N., Abraham, G.), Nova, USA. (Accepted) ISBN: 978-1-53614-033-0

27. Pathak, J.; Rajneesh.; Singh, V.; Kumar, D.; Ahmed, H.; Singh, D.K.; **Kannaujiya, V.K.**; Richa.; Singh, S.P.; Sinha, R.P. (2018) Enzymatic and non-enzymatic protection strategies of cyanobacteria against ultraviolet radiation. In: Trends in Life Science Research (Eds: Sinha, R.P.; Shrivastava, U.P.), Nova, USA. pp. 1-28.

28. Singh, V.; Pathak, J.; Rajneesh; Richa; Kumar, D.; Ahmad, H.; Singh, D.K.; **Kannaujiya, V.K.**; Sinha, R.P. (2017) Do cyanobacteria have enough mechanisms to counteract uv stress? New Approaches in Biological Sciences (Eds. Sinha, R.P.; Richa), Nova, USA. pp. 265-307

29. **Kannaujiya, V.K.**; Kumar, D.; Richa; Pathak, J.; Sonker, A. S.; Rajneesh; Singh, V.; Sundaram, S.; Sinha, R. P. (2017) Recent advances in production and the biotechnological significance of phycobiliproteins. In: New Approaches in Biological Sciences (Eds. Sinha, R.P.; Richa), Nova, USA. pp. 1-34.

30. Pathak, J.; Rajneesh; Richa; **Kannaujiya, V.K.**; Sonker, A.S.; Sinha, R.P. (2016) Cyanobacterial extracellular polysaccharide sheath pigment scytonemin: a novel multipurpose pharmacophore. In: Marine Glycobiology: Principle and Application (Ed. Kim, S.-K.), CRC Press, Taylor and Francis, New York. pp. 323-337.

31. Richa; Kesheri, M.; **Kannaujiya, V.K.**; Sinha, R.P. (2015) UV-absorbing Compounds in Cyanobacteria. In: Biological Sciences Innovations and Dynamics (Eds. Sinha, R.P.; Richa; Rastogi, R.P.) New India Publishing Agency, New Delhi, India. pp. 105-139.

32. **Kannaujiya, V.K.**; Richa; Sinha, R. P. (2015) Genomics and structural analysis of phycobiliproteins. In: Biological Sciences Innovations and Dynamics (Eds. Sinha, R.P.; Richa; Rastogi, R.P.) New India Publishing Agency, New Delhi, India. pp. 141-156.

33. Pathak, J.; Rajneesh; Richa; **Kannaujiya, V.K.**; Sonker, A.S.; Sinha, R.P. (2015) Diverse function and application of novel sheath pigment, scytonemin. In: Biological Sciences Innovations and Dynamics (Eds. Sinha, R.P.; Richa; Rastogi, R.P.) New India Publishing Agency, New Delhi, India. pp.237-262.

## C. Authored Book

**Kannaujiya, V.K.**, Sundaram, S., Sinha, R.P. (2017) Phycobiliproteins: Recent Developments and Future Applications. Springer Nature, Singapore, pp.151.

## D. Popular Articles

1. Jainendra Pathak, Richa, **Vinod Kumar Kannaujiya**, Rajneesh, Arun Shyam Sonker, Rajeshwar Prasad Sinha (2014) Scytonemin: Bahuuddeshiya vahyakoshikiya rangdrbya. Vigyan-Ganga 7: 38-40.

2. **Vinod Kumar Kannaujiya**, Richa, Rajeshwar Prasad Sinha (2013) Shaiwalo me paya jane wala antioxidant evm manav jivan me iski upyogita. Vigyan-Ganga 5: 54-56.

3. **Vinod Kumar Kannaujiya**, Rajeshwar Prasad Sinha (2012) Paravaigni kirno se surksha ke liye prakritik sanskrin evm iski sarvjanik upyogita. Vigyan-Ganga 3: 92-93.