


Curriculum Vitae

Full Name:	DR. DHANANJAY KUMAR			
Designation:	Assistant Professor			
Department:	Botany			
Campus:	Srinagar Campus			
Telephone:	01370 267160	Fax:	01370 267160	
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Education Qualification:	<ul style="list-style-type: none"> • B. Sc. (Botany, Zoology, Chemistry, 2002), <i>First Division</i> from University of Allahabad, Prayagraj, Uttar Pradesh, • M. Sc. (Botany, 2004), <i>First Division</i> from Banaras Hindu University, Varanasi, Uttar Pradesh, • Ph.D. (Botany, 2011), from Banaras Hindu University, Varanasi, • Postdoctoral Research (2012-13) from Jawaharlal Nehru University, New Delhi, • Qualified National Eligibility Test (2004) for Lectureship and Junior Research Fellowship from CSIR, New Delhi. 			
Teaching Experience:	09 Years	Research Experience:	17 Years	
Research Interest and Fields of Specialization				
<ol style="list-style-type: none"> 1. Algal Biotechnology 2. Aquatic Toxicology 3. Phycoremediation 4. Nanobiotechnology 				
Honours & Awards				
<ol style="list-style-type: none"> 1. Review Editor, <i>Frontiers in Plant Sciences</i>, 2. Shortlisted two times for INSPIRE Faculty Scheme (direct mode) of DST, New Delhi (2012), 3. Dr. D.S. Kothari Postdoctoral Fellowship from University Grants Commission, New Delhi (2012-2013), 4. Senior Research Fellowship from Council of Scientific and Industrial Research, New Delhi (2007-2009), 5. Junior Research Fellowship from Council of Scientific and Industrial Research, New Delhi (2005-2006), 6. Reviewer of International Journals: <i>Water Research, Bioresource Technology, Chemical Engineering Journal, Separation Science & Technology, Environmental Science & Pollution Research, Adsorption Science & Technology, Protoplasma, Chemical Engineering Communications, International Journal of Phytoremediation, Chemosphere, Bioremediation Journal, Desalination & Water Treatment, International Journal of Environmental Science and Technology etc.</i> 				
Member of Academic Institutions				
Membership of Scientific Organizations				
<ul style="list-style-type: none"> • Life Member of Association of Microbiologists of India, India • Life Member of Biotech Research Society, India 				

Research Supervision (No. of Ph.D. Degree Awarded/Submitted/Registered)

Awarded: 02

Registered: 01

Postdoctoral Fellow: 01 (DST Women Scientist Scheme B)**Research Projects/ MoU undertaken**

1. Potential of algal biofilms in bioremediation of domestic and industrial wastewaters: a promising approach for industrial applications. [Sanctioned from Department of Science and Technology, New Delhi; India Grant No. DST/WOS-B/AFE-23/2021; **Cost: 2667000.00; Role: Mentor; Status: On-going, Duration: 2021-2024**].
2. Diversity of microalgae and cyanobacteria across the thermal- and chemical-gradients in geothermal fields of Uttarakhand Himalaya. [*Sanctioned from* University Grants Commission, New Delhi; Grant No. F.30-6/2014(BSR); **Role: Principal Investigator; Cost: 06 Lakh, Status: Completed, Duration: 2014-2016**].
3. Assessment of Functional Role of atTic-22-III Gene in Protein Import into Chloroplast. [Sanctioned from University Grants Commission, New Delhi; Grant No. F. 4-2/2006(BSR)/13-580/2012(BSR); **Cost: 17 Lakh; Role: Principal Investigator; Duration: 2012-2013**].

Administrative Experience

- Assistant Director- Faculty Development Centre, HNBGU (2018-20)
- Member- PG Admission committee of the Department (2014-22)
- Member- UG Admission Committee of the School of Life Science (2014-22)
- Member- Board of Studies in Botany and Microbiology (2021-2022)

Scientific Visits Abroad/ International Collaboration**Conference/Symposium/Workshop Attended during last five years (2017-2022)****International****National**

1. Participated in a Refresher Course entitled "Research Methodology" program conducted online by Faculty Development Centre (established under PMMMNMTT Scheme of MHRD, New Delhi), Ramanujam College, University of Delhi, New Delhi from September 21 to October 05, 2021.
2. Delivered an Invited lecture entitled "Potential and constraints of algae-based metal sorption technology for wastewater treatment" in National Seminar on Environmental Protection and Indian Culture (from March 25, 2021 to March 26, 2021), Organized by B.R.A. Government Degree College, Maharajganj, UP, India.
3. Participated in a Refresher Course entitled "Multidisciplinary Approaches to Address Environmental Issues: Emerging Trends in Physical, Biological and Social Sciences" program held at Faculty Development Center (established under PMMMNMTT Scheme of MHRD, New Delhi), HNB Garhwal University, Srinagar, Garhwal from September 12-25, 2019.
4. Participated in one-week short term training program on "Computational Techniques in Research Methodology for Sciences and Social Sciences", program held at Faculty Development Center (established under PMMMNMTT Scheme of MHRD, New Delhi), HNB Garhwal University, Srinagar, Garhwal from July 25 to 31, 2019.
5. Participated in one-week workshop entitled "Use and Development of Open Educational Resources" organized by Faculty Development Center (established under PMMMNMTT Scheme of MHRD, New Delhi), HNB Garhwal University, Srinagar, Garhwal from October 12 to

18, 2018.

6. Delivered an Invited lecture entitled '*Fascinating Facts of Algal World*' on September 18, 2018 in the First Orientation Program of Faculty Development Centre, H.N.B. Garhwal University, Srinagar, Garhwal.
7. Participated in Refresher Course in Research Methodology in Physical and Life Sciences: Botany, Human Resource Development Center, Punjabi University, Patiala (Training Program held from January 02, 2017 to February 21, 2017).

Conference/Symposium/Workshop Organized during last five years (2017-2022)

NIL

Publications during last five years (2017-2022)

Journals (10)

1. Kumar, A., Pandey, S.S.*, **Kumar, Dhananjay***, Tripathi, B.N. (2022). Genetic manipulation of photosynthesis to enhance crop productivity under changing environmental conditions. *Photosynthesis Research* (published online) [Impact Factor: 3.429].
2. Seth, B.M.*, Uniyal, V., **Kumar, Dhananjay**, Singh, A. (2022). Sorption of cationic and anionic dyes by dead biomass of filamentous green alga *Cladophora* sp. (Chlorophyceae). *International Journal of Environmental Science and Technology* 19:12079-12090 [Impact Factor: 3.591].
3. Ikram, S.F., Uniyal, V., **Kumar, Dhananjay*** (2022). Changes in species composition of cyanobacterial and microalgal communities along a temperature gradient in Tapovan Hot Spring, Garhwal Himalaya, Uttarakhand, India. *Aquatic Ecology* 56: 573-584. [Impact Factor: 2.218].
4. Singh, P.* and **Kumar, Dhananjay** (2022). Biomass and lipid production potential of microalgae and cyanobacteria isolated from the diverse habitats of Garhwal Himalaya, India. *Biomass and Bioenergy* 162: 106469 [Impact Factor: 5.774].
5. Ikram, S.F., Singh, L., **Kumar, Dhananjay***, Sharma, C.M. (2022). Prospects and constraints in studying the biodiversity of agriculturally important microalgae and cyanobacteria and useful statistical tools. *Biodiversity and Conservation* 31:1095-1124. [Impact Factor: 4.296].
6. Ikram, S.F., **Kumar, Dhananjay***, Singh, V., Tripathi, B.N., Kim, B.H. (2021). Microalgal and cyanobacterial diversity of two selected hot springs of Garhwal Himalaya, Uttarakhand, India. *Fundamental and Applied Limnology* 195:111-127. [Impact Factor: 1.528].
7. Singh, P.*, **Kumar, Dhananjay** (2021). Biomass and lipid productivities of cyanobacteria - *Leptolyngbya foveolarum* HNBGU001. *BioEnergy Research* 14: 278-291. [Impact Factor: 3.852].
8. Rai, J., **Kumar, Dhananjay***, Gaur, J.P. (2019). Sorption of malachite green (a cationic dye) and heavy metals by dead biomass of *Phormidesmis molle* (cyanobacteria)-dominated mat. *Water and Environment Journal*, 33:51-60. [Impact Factor: 1.977].
9. Yadav, A.*, **Kumar, Dhananjay**, Singh, R.S., Pandey, L.K., Rai, J. (2018). Seasonal variations in response of periphytic algal community to nutrient enrichment in the river Ganga (Varanasi, India). *International Journal of Limnology*, 54:32- 44 [Impact Factor: 0.944]
10. **Kumar, Dhananjay***, Pandey, Lalit K., Gaur, J.P. (2018). Growth of *Phormidium bigranulatum*-dominated mat in relation to nature of the substratum, time, pH and nutrient availability. *Environmental Engineering & Management Journal* 17: 307-316. [Impact Factor: 0.858].

Edited Book (01)

1. B.N. Tripathi and **Dhananjay Kumar (eds.) 2017**. Prospects and Challenges in Algal Biotechnology, Springer Nature Singapore, eBook ISBN 978-981-10-1950-0, Hardcover ISBN:

978-981-10-1949-4.

Book Chapters (05)

1. Singh, P., Singh, R.K., **Kumar, Dhananjay**, Tiwari, S.P. (2020). Ecology of the diazotrophic microbiome. In: Srivastava A.K., Kashyap, P.L., Srivastava, M. (eds.) *The Plant Microbiome in Sustainable Agriculture*, John Wiley & Sons, Ltd, pp. 81-99. eBook ISBN:9781119505457, Hardcover ISBN: 9781119505167
2. Maurya, V.K., **Kumar, Dhananjay**, Tiwari, B.S. (2018). Involvement of reactive species of oxygen and nitrogen in triggering programmed cell death in plants. In: Vats S. (ed.) *Biotic and Abiotic Stress Tolerance in Plants*, Springer Nature Singapore, pp. 257-278. eBook ISBN 978-981-10-9029-5, Hardcover ISBN: 978-981-10-9028-8.
3. Fonia, A., Singh, P., Singh, V., **Kumar, Dhananjay***, Tripathi, B.N. (2018). Molecular mechanisms of heavy metal hyperaccumulation in plants. In: Chandra, R., Dubey, N.K. and Kumar, M. (eds), *Phytoremediation of Environmental Pollutants*, CRC Press (Taylor and Francis), pp. 99-116. ISBN: 978-113-80-6260-3
4. Singh, P., Singh, R.K., **Kumar, Dhananjay** (2018). Microalgae: potential agents for carbon dioxide mitigation. In: Kashyap, P.L., Srivastav, A.K., Tiwari, S.P., Kumar, S. (eds), *Microbes for Climate Resilient Agriculture*, John Wiley & Sons, pp. 57-74. ISBN: 978-111-92-7602-9
5. Pandey, S.S., **Kumar, Dhananjay**, Tiwari, B.S. (2017). Chloroplast metabolic engineering for agriculture. In: Dubey, S.K. Sangwan R.S., Pandey, A. (eds), *Current Developments in Biotechnology and Bioengineering*, Volume 8: Crop Modification, Nutrition, and Food Production. Elsevier, pp. 149-161. ISBN: 978-044-46-3666-4

Publications (Full List)

WOS-indexed Journals (27)

1. Kumar, A., Pandey, S.S.*, **Kumar, Dhananjay***, Tripathi, B.N. (2022). Genetic manipulation of photosynthesis to enhance crop productivity under changing environmental conditions. *Photosynthesis Research* (published online). [Impact Factor: 3.429, Citations: 00].
2. Seth, B.M.*, Uniyal, V., **Kumar, Dhananjay**, Singh, A. (2022). Sorption of cationic and anionic dyes by dead biomass of filamentous green alga *Cladophora* sp. (Chlorophyceae). *International Journal of Environmental Science and Technology* 19:12079-12090 [Impact Factor: 3.591, Citations: 01].
3. Ikram, S.F., Uniyal, V., **Kumar, Dhananjay*** (2022). Changes in species composition of cyanobacterial and microalgal communities along a temperature gradient in Tapovan Hot Spring, Garhwal Himalaya, Uttarakhand, India. *Aquatic Ecology* 56: 573-584. [Impact Factor: 2.218, Citations: 01].
4. Singh, P.*, **Kumar, Dhananjay** (2022). Biomass and lipid production potential of microalgae and cyanobacteria isolated from the diverse habitats of Garhwal Himalaya, India. *Biomass and Bioenergy* 162: 106469 [Impact Factor: 5.774, Citation: 01].
5. Ikram, S.F., Singh, L., **Kumar, Dhananjay***, Sharma, C.M. (2022). Prospects and constraints in studying the biodiversity of agriculturally important microalgae and cyanobacteria and useful statistical tools. *Biodiversity and Conservation* 31:1095-1124. [Impact Factor: 4.296, Citation: 01].
6. Ikram, S.F, **Kumar, Dhananjay***, Singh, V., Tripathi, B.N., Kim, B.H. (2021). Microalgal and cyanobacterial diversity of two selected hot springs of Garhwal Himalaya, Uttarakhand, India. *Fundamental and Applied Limnology* 195:111-127. [Impact Factor: 1.528, Citations: 03].

7. Singh, P.*, **Kumar, Dhananjay** (2021). Biomass and lipid productivities of cyanobacteria - *Leptolyngbya foveolarum* HNBGU001. *BioEnergy Research* 14: 278-291. [Impact Factor: 3.852, Citations: 13].
8. Rai, J., **Kumar, Dhananjay***, Gaur, J.P. (2019). Sorption of malachite green (a cationic dye) and heavy metals by dead biomass of *Phormidesmis molle* (cyanobacteria)-dominated mat. *Water and Environment Journal*, 33:51-60. [Impact Factor: 1.977, Citations: 04].
9. Yadav, A.*, **Kumar, Dhananjay**, Singh, R.S., Pandey, L.K., Rai, J. (2018). Seasonal variations in response of periphytic algal community to nutrient enrichment in the river Ganga (Varanasi, India). *International Journal of Limnology*, 54:32- 44 [Impact Factor: 0.944, Citations: 05]
10. **Kumar, Dhananjay***, Pandey, Lalit K., Gaur, J.P. (2018). Growth of *Phormidium bigranulatum*-dominated mat in relation to nature of the substratum, time, pH and nutrient availability. *Environmental Engineering & Management Journal* 17: 307-316. [Impact Factor: 0.858, Citations: 04].
11. Rai, Jyoti, **Kumar, Dhananjay**, Yadav, Arpana, Gaur, J.P.* (2016). Potential of cyanobacterial biofilms in phosphate removal and biomass production. *Journal of Environmental Management* 177: 138-144 [Impact Factor: 8.91, Citations: 26].
12. **Kumar, Dhananjay***, Pandey, Lalit K., Gaur, J.P. (2016). Metal sorption by algal biomass: from batch to continuous system. *Algal Research* 18: 95-109. [Impact Factor: 5.276, Citations: 131]
13. **Kumar, Dhananjay***, Gaur, J.P. (2014). Growth and metal removal potential of a *Phormidium bigranulatum*-dominated mat following long-term exposure to elevated levels of copper. *Environmental Science & Pollution Research* 21:10279-10285. [Impact Factor: 5.19, Citations: 25].
14. Pandey, Lalit K.*, **Kumar, Dhananjay**, Yadav, Arpana, Rai, Jyoti, Gaur, J.P. (2014). Morphological abnormalities in periphytic diatoms as a tool for biomonitoring of heavy metal pollution in a river. *Ecological Indicators* 36:272-279. [Impact Factor: 9.304, Citations: 91].
15. **Kumar, Dhananjay**, Yadav, Arpana, Gaur, J.P.* (2012). Growth, composition and metal removal potential of a *Phormidium bigranulatum*-dominated mat at elevated levels of cadmium. *Aquatic Toxicology* 116-117:24-33. [Impact Factor: 5.202, Citations: 14].
16. Singh, Alpana, **Kumar, Dhananjay***, Gaur, J.P. (2012). Continuous metal removal from solution and industrial effluents using Spirogyra biomass-packed column reactor. *Water Research* 46:779-788. [Impact Factor: 13.400, Citations: 120].
17. **Kumar, Dhananjay**, Rai, Jyoti, Gaur, J.P.* (2012). Removal of metal ions by *Phormidium bigranulatum* (Cyanobacteria)-dominated mat in batch and continuous flow systems. *Bioresource Technology* 104:202-207. [Impact Factor: 11.889, Citations: 45].
18. **Kumar, Dhananjay**, Singh, Anupama, Pandey, Lalit K., Gaur, J.P.* (2012). Sorption of methylene blue by an *Oscillatoria* sp.-dominated cyanobacterial mat. *Bioremediation Journal* 16:48-56. [Impact Factor: 2.140; Citations: 06].
19. **Kumar, Dhananjay**, Gaur, J.P.* (2011). Metal biosorption by two cyanobacterial mats in relation to pH, biomass concentration, pretreatment and reuse. *Bioresource Technology* 102:2529-2535. [Impact Factor: 11.889, Citations: 108].
20. **Kumar, Dhananjay***, Gaur, J.P. (2011). Chemical reaction- and particle diffusion-based kinetic modelling of metal biosorption by a *Phormidium* sp.-dominated mat. *Bioresource Technology* 102:633-640. [Impact Factor: 11.889, Citations: 144].
21. **Kumar, Dhananjay**, Prakash, Bhanu, Pandey, Lalit K., Gaur, J.P.* (2010). Sorption of paraquat and 2,4-D by *Oscillatoria* sp.-dominated cyanobacterial mat. *Applied Biochemistry and Biotechnology* 160:2475-2485. [Impact Factor: 3.094; Citations: 21]
22. **Kumar, Dhananjay**, Pandey, Lalit K., Gaur, J.P.* (2010). Evaluation of various isotherm models, and metal sorption potential of cyanobacterial mats in single and multi-metal systems. *Colloids and Surfaces B: Biointerfaces* 81:476-485. [Impact Factor: 5.999, Citations: 33].

23. Kumar, Manoj, **Kumar, Dhananjay**, Pandey, Lalit K., Gaur, J.P.* (2010). Methylene blue sorption capacity of some common waste plant materials. *Chemical Engineering Communications* 197:1435-1444. [Impact Factor: 2.586, Citations: 15].
24. Gupta, Sharda, **Kumar, Dhananjay**, Gaur, J.P.* (2009). Kinetics and isotherm modelling of Pb(II) sorption onto some waste plant materials. *Chemical Engineering Journal* 148:226-233. [Impact Factor: 16.774, Citations: 131].
25. **Kumar, Dhananjay***, Singh, Alpana, Gaur, J.P. (2008). Mono-component versus binary isotherm models for Cu(II) and Pb(II) sorption from binary metal solution by a green alga *Pithophora oedogonia*. *Bioresource Technology* 99:8280-8287. [Impact Factor: 11.889; Citations: 61].
26. Singh, Alpana, **Kumar, Dhananjay**, Gaur, J.P.* (2008). Removal of Cu(II) and Pb(II) using *Pithophora oedogonia*: sorption, desorption and repeated use of the biomass. *Journal of Hazardous Materials* 152:1011-1020. [Impact Factor: 14.224, Citations: 73].
27. Singh, Alpana, **Kumar, Dhananjay**, Gaur, J.P.* (2007). Copper(II) and lead(II) sorption on non-living biomass of *Spirogyra neglecta*. *Bioresource Technology* 98:3622-3629. [Impact Factor: 11.889, Citations: 77].

Edited Book (01)

1. Tripathi, B.N., **Kumar, Dhananjay** (eds.), 2017. Prospects and Challenges in Algal Biotechnology, Springer Nature Singapore, eBook ISBN 978-981-10-1950-0, Hardcover ISBN: 978-981-10-1949-4. [Citations: 30]

Book Chapters in Edited Books- International Publishers (05)

1. Singh, P., Singh, R.K., **Kumar, Dhananjay**, Tiwari, S.P. (2020). Ecology of the diazotrophic microbiome. In: Srivastava A.K., Kashyap, P.L., Srivastava, M. (eds.) *The Plant Microbiome in Sustainable Agriculture*, John Wiley & Sons, Ltd, pp. 81-99. eBook ISBN:9781119505457, Hardcover ISBN: 9781119505167
2. Maurya, V.K., **Kumar, Dhananjay**, Tiwari, B.S. (2018). Involvement of reactive species of oxygen and nitrogen in triggering programmed cell death in plants. In: Vats S. (ed.) *Biotic and Abiotic Stress Tolerance in Plants*, Springer Nature Singapore, pp. 257-278. eBook ISBN 978-981-10-9029-5, Hardcover ISBN: 978-981-10-9028-8.
3. Fonia, A., Singh, P., Singh, V., **Kumar, Dhananjay**, Tripathi, B.N. (2018). Molecular mechanisms of heavy metal hyperaccumulation in plants. In: Chandra, R., Dubey, N.K. and Kumar, M. (eds), *Phytoremediation of Environmental Pollutants*, CRC Press (Taylor and Francis), pp. 99-116. ISBN: 978-113-80-6260-3
4. Singh, P., Singh, R.K., **Kumar, Dhananjay** (2018). Microalgae: potential agents for carbon dioxide mitigation. In: Kashyap, P.L., Srivastava, A.K., Tiwari, S.P., Kumar, S. (eds), *Microbes for Climate Resilient Agriculture*, John Wiley & Sons, pp. 57-74. ISBN: 978-111-92-7602-9
5. Pandey, S.S., **Kumar, Dhananjay**, Tiwari, B.S. (2017). Chloroplast metabolic engineering for agriculture. In: Dubey, S.K. Sangwan, R.S., Pandey, A. (eds), *Current Developments in Biotechnology and Bioengineering, Volume 8: Crop Modification, Nutrition, and Food Production*. Elsevier, pp. 149-161. ISBN: 978-044-46-3666-4