



Amit Kumar (M. Sc., Ph.D., FIAES)

Scientist C

Host Plant Section

Central MugaEri Research & Training Institute, Central Silk Board,
Lahdoigarh, Jorhat-785700, Assam

Email: amit_bio80@yahoo.com

[Google Scholar](#); [ResearchGate](#); [Publons](#)

Educational Qualifications: M.Sc. Botany (2001)
Ph.D. in Botany (2008)

Area of Research Interest: Climate Change, Plant Physiology, Environmental Science, Soil Science,

Ongoing Projects:

1. Impact of elevated CO₂ & temperature on muga silkworm and its primary host plant (Principal Investigator)
2. Genetic enhancement of Castor (*Ricinus communis* L.) germplasm as a source material for development of productive perennial varieties. (Co-Investigator)

Concluded Projects:

1. Assessment of phytochemical diversity in Som (*P. bombycina* Kost.) the primary host plant of *Antheraea assamensis*-(Principal Investigator)
2. Impact assessment of petroleum crude oil activities on Muga silkworm (*Antheraea assamensis*, Helfer) and its host plants in Assam- (Co-Investigator)

Research Experience:

- Scientist C in Host Plant Section CMER&TI, Central Silk Board, Jorhat, Assam (01 Jan 2019 to till date)
- Scientist C in Central Silk Board, Govt. of India, Bangalore, Karnataka (01 Nov 2018 to 31 Dec 2018)
- Research Associate in CESCRA, IARI, New Delhi (27 July 2012 to 31 March 2017)
- Senior Research Fellow in CESCRA, IARI, New Delhi (19 March 2011 to 26 July 2012)
- Senior Research Fellow in NIH, Roorkee, Uttarakhand (12 Feb 2010 to 18 March 2011)

Academic Experience:

- Assistant Professor in Botany Department, Dayalbagh Educational Institute, Agra (31 Oct 2017 to 30 Oct 2018)
- Assistant Professor in Eternal University, Baru Sahib, Sirmour, HP (01 June 2017 to 26 Oct 2017)
- Assistant Professor in Techwords WGVS, Manglore, Haridwar, Uttarakhand (15 July 2009 to 10 Feb 2010)

Professional Recognition, Awards, Fellowships received:

- **Emerging Scientist Award-2018** in International Conference on Agriculture, Allied and Applied Sciences Held at JNU New Delhi during 28-29 April 2018.
- Awarded **Fellow** of Indian Academy of Environmental Sciences, India (**FIAES**).
- **Young Scientist Grant** from AsiaFlux 2014 & International rice Research Institute, Philippines.
- **Associate Editor** in “International Journal of Agricultural and Statistical Science” (SCI Journal).
- **Associate Editor** in “Biochemical and Cellular Achieve” (SCI Journal)

- **Associate Editor** in *Frontiers in Environmental Science*, Special Issue on “[Greenhouse gases trade from terrestrial ecosystem](#)” (**SCI, Scopus; IF 2.75**).
- **Associate Editor** in *Land (MDPI)* approved Special Issue on “[Geochemical mapping in Land management](#)” (**SCI, Scopus; IF 2.42**)
- **Organizing Committee member** in International conference on Emerging Issues in Agriculture, Environmental & Applied Sciences for Sustainable Development-2018 organized during 27-29 Nov 2018 at Sam Higginbottom University of Agriculture, technology and Science (SHUATS), Allahbad, UP, India.
- Indian Council of Agricultural Sciences, National Eligibility Test (**ICAR-NET**) - **2014 (I)** in Economic Botany and Plant genetic resources.
- Indian Council of Agricultural Sciences, National Eligibility Test (**ICAR-NET**) - **2016** in Plant Physiology.
- Graduation Aptitude Test examination (**GATE**) -**2013** in Life Science.
- Uttarakhand State Eligibility for lectureship (**U-SET**)- **2013** in Life Science

Membership of Professional Societies: 1. Indian Academy of Environmental Sciences
2. Society for Conservation of Nature
3. Society of Reproductive Biology

PUBLICATION

(Research Articles **40**; Review Articles **15**; Books **03**; Manuals **03**; Book Chapters **20**; Popular Articles **05**; Report **01**) Citation 1409; i10-index: 38; h-index: **20**

Important Publication

1. A Kumar, DK Jigyasu, A Kumar, G Subrahmanyam, R Mondal, AA Shabnam, Cabral-Pinto M. M.S., SK Malyan, AK. Chaturvedi, DK Gupta, RK Fagodiya, SA Khan, A Bhatia, 2021. Nickel in terrestrial biota: Comprehensive review on contamination, toxicity, tolerance and its remediation approaches. *Chemosphere*. 275, <https://doi.org/10.1016/j.chemosphere.2021.129996>.
2. A Kumar, G Subrahmanyam, R Mondal, MMS Cabral-Pinto, AA Shabnam, DK Jigyasu, SK Malyan, RK Fagodiya, SA Khan, A Kumar, Zhi-Guo Yu. 2021. Bio-remediation approaches for alleviation of cadmium contamination in natural resources. *Chemosphere*, 268, <https://doi.org/10.1016/j.chemosphere.2020.128855>.
3. A Sharma, S Kumar, S.A. Khan, A. Kumar, J.I. Mir, O.C. Sharma, D.B. Singh, S. Arora, 2021. Plummeting anthropogenic environmental degradation by amending nutrient-N input method in saffron growing soils of north-west Himalayas. *Sci Rep* **11**, 2488. <https://doi.org/10.1038/s41598-021-81739-x>
4. A Kumar, Cabral-Pinto M, A Kumar, M Kumar, PA Dinis. 2020 Estimation of Risk to the Eco-Environment and Human Health of Using Heavy Metals in the Uttarakhand Himalaya, India. *Applied Sciences*. 2020; 10(20):7078. <https://doi.org/10.3390/app10207078>.
5. A Kumar, K Medhi, RK Fagodiya, G Subrahmanyam, R Mondal, P Raja, SK Malyan, DK Gupta, CK Gupta, H Pathak, 2020. Molecular and ecological perspectives of nitrous oxide producing microbial communities in agro-ecosystems. *Rev Environ Sci Biotechnol* 19, 717–750. <https://doi.org/10.1007/s11157-020-09554-w>

6. A Kumar, A Kumar, MMS Cabral-Pinto, AK Chaturvedi, AA Shabnam, G Subrahmanyam, R Mondal, DK Gupta, SK Malyan, SS Kumar, SA Khan, KK Yadav, 2020. Lead Toxicity: Health Hazards, Influence on Food Chain, and Sustainable Remediation Approaches. *Int. J. Environ. Res. Public Health*, 17, 2179.
7. SS Kumar, A Kumar, S Singh, SK Malyan, S Baram, J Sharma, R Singh, A Pugazhendhi 2020. Industrial wastes: Fly ash, steel slag and phosphogypsum- potential candidates to mitigate greenhouse gas emissions from paddy fields. *Chemosphere* 241: 124824
8. RK Fagodiya, H Pathak, A Bhatia, N Jain, DK Gupta, A Kumar, SK Malyan, R Dubey, S Radhakrishanan, R Tomer 2019. Nitrous oxide emission and mitigation from maize–wheat rotation in the upper Indo-Gangetic Plains. *Carbon Management* <https://doi.org/10.1080/17583004.2019.1650579>
9. N Gupta, KK Yadav, V Kumar, S Kumar, R Chadd A Kumar 2019. Trace elements in soil-vegetable interface: Translocation, Bioaccumulation, toxicity and amelioration-A Review. *Science of Total Environment* 651 (2): 2927-2942.
10. KK Yadav, N Gupta, A Kumar, LM Reece, N Singh, S Rezanian, SA Khan 2018. Mechanistic understanding and holistic approach of phytoremediation: A review on application and future prospects *Ecological Engineering* 120, 274-298 ([Most Cited Paper](#))
11. K Yadav, N Gupta, V Kumar, SA Khan, A Kumar 2018. A review of emerging adsorbents and current demand for defluoridation of water: Bright future in water sustainability *Environment International* 111: 80-108
12. R Bhattacharyya, A Bhatia, TK Das, S Lata, A Kumar, R Tomer, G Singh, 2018. Aggregate-associated N and global warming potential of conservation agriculture-based cropping of maize-wheat system in the north-western Indo-Gangetic Plains. *Soil and Tillage Research* 182, 66-77
13. Khan SA., Malla FA, Rashmi, Malav LC., Gupta N., Kumar A. 2018. Potential of wastewater treating *Chlorella minutissima* for methane enrichment and CO₂ sequestration of biogas and producing lipid *Energy* 150 (May 2018), 153 – 163
14. U Mina, R Kumar, R Gogoi, A Bhatia, RC Harit, D Singh, Amit Kumar, A Kumar 2017. Effect of elevated temperature and carbon dioxide on maize genotypes health index. *Ecological Indicators* <http://dx.doi.org/10.1016/j.ecolind.2017.08.060> R.
15. RK Fagodiya, H Pathak, A Kumar, A Bhatia and N Jain 2017. Global temperature potential of nitrogen use in Agriculture: A 50-year assessment. *Scientific Report Nature* 7: 44928; [doi: 10.1038/srep44928](https://doi.org/10.1038/srep44928)
16. SK Malyan, A Bhatia, A Kumar, R Singh, SS Kumar, R Tomer, O Kumar, DK Gupta, N Jain, 2016. Methane production, oxidation and mitigation: A Mechanistic understanding and comprehensive evaluation of influencing factors. *Science of Total Environment*. 572:874–896

17. DK Gupta, A Bhatia, A Kumar, TK Das, N Jain, R Tomer, RK Fagodiya, R Dubey, SK Malyan, H Pathak 2016. Mitigation of greenhouse gas emission from rice wheat system of the Indo Gangetic plains: through tillage, irrigation and fertilizer management. *Agriculture, Ecosystems and Environment*. 230:1-9
18. R Tomer, A Bhatia, V Kumar, A Kumar, R Singh, B Singh and SD Singh 2014. Impact of Elevated Ozone on Growth, Yield and Nutritional Quality of Two Wheat Species in Northern India. *Aerosol and Air Quality Research* [doi: 10.4209/aaqr.2013.12.0354](https://doi.org/10.4209/aaqr.2013.12.0354).

BOOKS

- Amit Kumar, Anubha Sharma and T. S. Dhaka 2013. *The Spices, Plantation Aromatic and Medicinal Plants- In A Nutshell* (ISBN: 81-8399-078-9)pp 266
- Amit Kumar, Anubha Sharma, Upendra Kumar baliyan and T. S. Dhaka 2015. *Economic Botany and Plant Genetic Resources- At a Glance*(ISBN: 978-93-82310-04-4)pp 225.
- T S Dhaka, LalitJoesph and Amit Kumar 2015 *Plant Physiology* (ISBN: 978-93-85904-04-02) pp 448.

MANUALS

- RajniBala, T. S. Dhaka and Amit Kumar Sharma (Hindi & English) *Practical Botany Volume I for Graduation (B. Sc.)* pp146.
- RajniBala, T. S. Dhaka and Amit Kumar Sharma (Hindi & English)*Practical Botany Volume II for Graduation (B. Sc.)* pp 284.
- RajniBala, T. S. Dhaka and Amit Kumar Sharma (Hindi & English) *Practical Botany Volume III for Graduation (B. Sc.)* pp 482.

BOOK CHAPTERS (Selected)

- A Kumar, AK. Chaturvedi, U Surendran, AA Shabnam, A Singh, SN Vinodakumar, B Tamuly, SK Malyan, SA Khan, MMS Cabral-Pinto, P Raja, KK Yadav, 2021. Mechanistic overview of metal tolerance in edible plants: A physiological and molecular perspective, Editor(s): Mirza Hasanuzzaman, Majeti Narasimha Vara Prasad, *Handbook of Bioremediation*, Academic Press, Pages 23-47
- Manjunath R.N., Kumar A., Arun Kumar K.P. (2020) Utilization of Sericulture Waste by Employing Possible Approaches. In: Naeem M., Ansari A., Gill S. (eds) *Contaminants in Agriculture*. Springer, Cham. https://doi.org/10.1007/978-3-030-41552-5_19
- J Mukherjee, N. Mridha, S. Mondal, D. Chakraborty and A. Kumar 2016. "Management of soil health in variable climate" in edited book entitled "Advances in crop environment interaction" (Ed; S. K. Bal et al.).

- Kumar et al., 2019. Fungal Phytoremediation of Heavy Metal-Contaminated Resources: Current Scenario and Future Prospects. In: Yadav A., Singh S., Mishra S., Gupta A. (eds) Recent Advancement in White Biotechnology Through Fungi. Fungal Biology. Springer, Cham.
- A. Kumar, P. Das, J. Mukherjee, A. Das, N. Mridha, P. Santra and D. Chakraborty 2016. "Digital soil mapping" in edited book entitled "Digital soil mapping through geostatistical approaches using R and QGIS" (Ed; PriyabrataSantra et al.,) NIPA, New Delhi.
- A. Kumar, R. Tomer, A. Bhatia, N. Jain and H. Pathak 2015. "Greenhouse Gas Mitigation in Indian Agriculture" accepted in book entitled Agro-Technologies for Adaptation to Climate Change (Edited by H. Pathak and B. Chakrabarti ISBN:978-93-83168-22-4), CESCRA, IARI, New Delhi.
- P. Bhattacharyya, S. Mohanty, R.K. Sarkar, A. Bhatia, N. Jain, A. Kumar and H. Pathak 2013 "Measurement of Integrated greenhouse gas flux with eddy covariance technique" published in Measurement of greenhouse gas emission from crop livestock and aquaculture (Ed. H.Pathak, RC Upadhyay, M Murlidhar, P Bhattacharyya and B Venkateswarlu ISBN: 978-81-88708-98-7), IARI, New Delhi pp 18-28.