DEPARTMENT OF BOTANY
DYAL SINGH COLLEGE, UNIVERSITY OF DELHI
FACULTY DETAIL

Title	Dr.	First Name	Dinesh	Last Name	Kumar	Photograph

Designation	Assistant Professor
Address	B-44, Dwarka Sector-8, New Delhi 110077
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Educational Qualifications

Degree	Institution	Year
BSc	University of Allahabad	2010
MSc Botany	Department of Botany, Delhi University	2012
Ph.D.	Department of Botany, Delhi University	2019

Career Profile

Dr. Dinesh Kumar graduated from University of Allahabad with B.Sc. in Botany (2010). He received his M.Sc. (Botany) from Department of Botany, University of Delhi in 2012 and Ph.D. in Botany with thesis entitled "**Biotechnological and Biochemical Investigations on Two Medicinal Plants, *Holarrhena pubescens* Wall. ex G. Don and *Nerium oleander* L. and Bioefficacy of Green Synthesized Nanoparticles against Malaria, Filariasis and Dengue Vectors**". He has received UGC-CSIR Junior and Senior Research Fellowships during his Ph.D. During his doctoral degree, he has been awarded with NAMASTE Fellowship (ERASMUS MUNDUS) under Ph.D. exchange programme funded by EUROPIAN UNION COMMISSION, one of the prestigious fellowships for Indian Students in Europe, at Universitat Politècnica de València, Spain. He worked as a post-doctoral scholar from 2019-2021, at ICMR-National Institute of Malaria Research, New Delhi on the topic "**Design and Development of Larvicidal Compounds and Silver Nanoparticles from *Pimenta dioica* and *Alternanthera sessilis* against Dengue, Malaria and Filariasis vectors**". He also worked as a Research Associate from 2022-2023, at ICMR-National Institute of Malaria Research, New Delhi. He worked as an assistant professor (Ad- hoc) in Department of Botany, Miranda House college, University of Delhi. He has published **sixteen research articles in various peer reviewed international journals as well as**

abstracts/proceeding in various national & international conferences. He has also presented some of his work in 15th International Symposium Prospects for the 3rd Millenium Agriculture held at University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania.

Administrative Assignments (From 1st July 2017 onwards)

- Member of the Admission Committee for B.Sc. Life Sciences, Dyal Singh College, University of Delhi, New Delhi
- Member of the Botanical Society, Dyal Singh College, University of Delhi, New Delhi.
- Co-coordinator of the Feedback collection team (Department of Botany), Dyal Singh College, University of Delhi, New Delhi.
- Co-coordinator of IQAC (Botany), Dyal Singh College, University of Delhi, New Delhi.

Areas of Interest / Specialization

Parasitology, plant biotechnology, Plant tissue culture, nanotechnology, Plant Physiology.

Subjects Taught

Mycology and phytopathology, Biodiversity (Microbes, algae, fungi, archegoniatae)

Research Guidance

No

Publications Profile (From 1st July 2016 onwards)

1. **Dinesh Kumar**, Bharat Singh, Gaurav Kumar, Rashmi Shakya, Kumar Vikram and Himmat Singh. **2023.** Phyto-fabrication and characterization of *Alternanthera sessilis* leaf extracts mediated silver nanoparticles and evaluation of larvicidal potential. (**Under review**). Springer, UK) (**I.F. 4.2**).

2. Bharat Singh, **Dinesh Kumar** and Himmat Singh. **2023**. Insecticidal Paint: An alternate IVM strategy for mosquito control. process safety and environmental protection. (**Under review**). Springer, UK) (**I.F. 7.92**).

3. **Dinesh Kumar**, Bharat Singh, Ravindra Kumar and Veena Agrawal. **2023.** Over-expression of antioxidants and elicitation in the conessine biomolecule content in the nodal cultures of *Holarrhena pubescens* (medicinal tree) exposed to different heavy metals - Ni, Co, Cr, and As. **3 Biotech** 13(9):307. doi: 10.1007/s13205-023-03697-7**, (**Springer, UK**) (I.F. 2.9**)

4. **Dinesh Kumar**, Gaurav Kumar, Ram Das & Veena Agrawal, **2018**. *Strong larvicidal potential of silver nanoparticles (AgNPs) synthesized using Holarrhena antidysenterica bark extract against malarial vector, Anopheles stephensi.* **Process Saf. Environ. Prot.** 116: 137–148. (Elsevier, UK). **(I.F. 7.926**).

5. **Dinesh Kumar**, Pawan Kumar, Himmat Singh & Veena Agrwal. **2020.** *Biocontrol of mosquito vectors through herbal derived silver nanoparticles: prospects and challenges.* **Env. Sci. Pol. Res**. 27: 25987–26024. (Springer, Germany) **(I.F. 5.19).**

6. Renuka Yadav, Himanshu Saini, **Dinesh Kumar**, Shweta Pasi & Veena Agrawal. 2019. *Bioengineering of Piper longum L. extract mediated silver nanoparticles and their potential biomedical applications.* **Mater. Sci. Eng. C.** 104: 109984. (Elsevier, Netherlands) **(I.F. 7.32).**

7. Pawan Kumar, Rashmi Shakya, Vikram Kumar, **Dinesh Kumar**, RPS Chauhan and Himmat Singh. **2022**. *Chemical constituents and strong larvicidal activity of Solanum xanthocarpum among selected plants extracts against the malaria, filaria, and dengue vectors***. J Vector Borne Dis**. 60:18-31. (**I.F. 1.6**)

8. **Dinesh Kumar**, Pawan Kumar, Kumar Vikram and Himmat Singh. **2022**. *Fabrication and characterization of noble crystalline silver nanoparticles from Pimenta dioica leave extract and analysis of chemical constituents for larvicidal applications*. **Saudi Journal of Biological Sciences**. https://doi.org/10.1016/j.sjbs. 2021.09.052. (Elsevier) **(I.F. 4.052**).

9. Pawan Kumar, **Dinesh Kumar**, Vikram Kumar, RPS Chauhan and Himmat Singh. **2022**. *Mosquito larvicidal potential of Solanum xanthocarpum leaf extract derived silver nanoparticles and its bio-toxicity on non-target aquatic organism*. **J Vector Borne Dis**. https://www.jvbd.org/preprint article. asp?id=325635; type=0 **(in** production)**. (I.F. 1.6**).

10. Shubhra Rajput, **Dinesh Kumar** & Veena Agrawal. **2020.** *Bioengineering of Indian Belladonna extract mediated silver nanoparticles and their potential antioxidant, anti-inflammatory, anticancer and larvicidal activities.* **Plant Cell Report**. 39:921–939. (Springer, UK). **(I.F.-4.96**).

11. Himanshu Saini, Renuka Yadav, **Dinesh Kumar**, Gaurav Kumar & Veena Agrawal. **2019.** *Cullen corylifolium (L.) Medik. seed extract, an excellent system for fabrication of silver nanoparticles and their multipotency validation against different mosquito vectors and human cervical cancer cell line*. **J. Clus Sci.** 31: 161–1751. (Springer ,US) **(I.F. 3.44**).

12. **Dinesh Kumar**, Gaurav Kumar, Ram Das & Veena Agrawal, **2018**. *Green synthesis of silver nanoparticles using Holarrhena antidysenterica (L.) Wall. bark extract and their larvicidal activity against dengue and filariasis vectors.* **Parasitol. Res.** 117:377–389. (Springer, USA) **(I.F. 2.38**).

13. **Dinesh Kumar**, Gaurav Kumar, Ram Das, Ravindra Kumar & Veena Agrawal**. 2018**. *In vitro elicitation, isolation and characterization of conessine biomolecule from Holarrhena antidysenterica callus and its larvicidal activity against malaria vector, Anopheles stephensi*. **Env. Sci. Pol. Res.** 25:6783–6796. (Springer, Germany) **(I.F. 5.19**).

14. **Dinesh Kumar**, Mohamad Al Hassan, Oscar Vicente, Veena Agrawal & Monica Boscaiu. **2017**. *Effects of salinity and drought on growth, ionic relations, compatible solutes and activation of antioxidant systems in oleander (Nerium oleander L.)*. **PloS one**, 12(9), e0185017 (**I.F. 3.5**).
15. Aleksandra Kozminska, Mohamad Al Hassan, **Dinesh Kumar**, Lacramioara Oprica, Federico Martinelli, Marius Nicusor Grigore, Oscar Vicente & Monica Boscaiu. **2017**. Characterizing the effects of salt stress in *Calendula officinalis* L. **J. Appl. Bot. Food Qual.** 90, 323–329. (Germany) **(I.F. 1.5**).
16. **Dinesh Kumar**, Mohamad Al Hassan, Oscar Vicente, Veena Agrawal & Monica Boscaiu, **2016**. *Mechanisms of response to salt stress in Oleander (Nerium oleander L.)*. **Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Horticulture**, 73: 249-251. (Romania) **(I.F. 0.5**).
17. Monika Heikrujam, **Dinesh Kumar**, Shashi Kumar Gupta and Veena Agrawal. **2014.** High efficiency cyclic production of secondary somatic embryos and ISSR based assessment of genetic fidelity among the emblings in *Calliandra tweedii*- an ornamental woody legume. **Sci. Hortic**. 177: 63–70. (Elsevier, Netherlands) (**I.F. 4.342**).
18. Vinay Shankar, **Dinesh Kumar** & Veena Agrawal. **2016**. *Assessment of antioxidant enzyme activity and mineral nutrients in response to NaCl stress and its amelioration through glutathione in chickpea*. **Appl. Biochem. Biotechnol.** 178: 267-284. (Springer US) **(I.F. 3.09**).
19. Pooja Prasad, Suman Lata, **Dinesh Kumar**, Sanjeev Kumar Gupta, Rekha Saxena, Deepak Kumar Arya, Himmat Singh. **2022.** *Susceptibility status of Aedes aegypti (Diptera: Culicidae) against insecticides of public health use in Delhi and NCR region, India*. DOI: 10.4103/0972-9062.374044. **J Vector Borne Dis.** (**I.F.1.6**)

Conference Organization/ Presentations (From 1st July 2016 onwards)

INTERNATIONAL

1. Kumar Vikram, Pawan Kumar, **Dinesh Kumar**, RPS Chauhan, Himmat Singh. **2022.** Larvicidal potential of silver nanoparticles synthesized from *Solanum xanthocarpum* leaf extracts: eco-friendly tools for controlling mosquito vectors. Joint International Tropical Medicine Meeting held at Montiel Hotel Surawong, Bangkok, Thailand w.e.f. 7-9 December 2022.
2. Bharat Singh, **Dinesh Kumar**, Pooja Prasad, Sangeeta Singh, Suman Lata, Sanjeev Kumar Gupta & Himmat Singh. **2022**. Study on *Aedes aegypti* Breeding Habitats and Key Containers in Delhi. International Conference of Medical Parasitology & Entomology (ICMPE) held at University of Malaya, Malaysia w.e.f August 17-18, 2022.

3. Pooja Prasad, Suman Lata, **Dinesh Kumar**, Sangeeta Singh, Bharat Kumar, Sanjeev Gupta, Deepak Arya, Himmat Singh. **2022.** Susceptibility Status of *Aedes aegypti* against Larvicide of Public Health Use in Delhi and NCR Region, International Conference of Medical Parasitology & Entomology (ICMPE) held at University of Malaya, Malaysia w.e.f August 17-18, 2022.
4. **Dinesh Kumar**, Mohamad Al Hassan, Oscar Vicente, Veena agrawal & Monica Boscaiu. **2016.** *"Mechanisms of Response to Salt Stress in Oleander (Nerium oleander L.)"*. The 15th International Symposium Prospects for the 3rd Millenium Agriculture held at University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania, w.e.f. 29th Sept to 1st Oct, 2016 p 2.

NATIONAL

1. Bharat Singh, **Dinesh Kumar** & Himmat Singh. **2023**. Comparative study on the larvicidal potential of selected medicinal plant extract and green synthesized silver nanoparticles against mosquito vectors. 15th Conference on Vectors and Vector Borne Diseases held at Goa University, **Goa** w. e. f. February 15-17, 2023.
2. Bharat Singh, **Dinesh Kumar** & Himmat Singh. **2022**. New frontier in the plant mediated biosynthesis of silver nanoparticles and its potential larvicidal application. 15th International Conference of Medical Arthropodology (SOMA) held at Osmania University, **Hyderabad** (TS) w.e.f December 12-14, 2022.
3. Shubhra Rajput, **Dinesh Kumar**, Gaurav Kumar, Veena Agrawal. **2019.** *Bioengineering of Indian Belladonna extract mediated silver nanoparticles & their strong therapeutic potential against cancer, malaria and inflammatory disorders.* In the "National conference on Nano/Bio-technology 2019" organized by Special Centre for Nanoscience, Jawaharlal Nehru University and National Institute of Immunology held at Jawaharlal Nehru University, **New Delhi, India**, w.e.f. December 19-21, 2019. (**Best Poster Award**).
4. Himanshu Saini, **Dinesh Kumar**, Renuka Yadav, Gaurav Kumar & Veena Agrawal. **2018**. *"Cullen corylifolium (L.) Medik. seed extract, an excellent system for fabrication of plant based nanomolecules showing their multipotency against two important health concerns - vector borne diseases and cancer"*. 3rd Annual Conference & Workshop of Indian Society of Nanomedicine held at All India Institute of Medical Sciences, **New Delhi** w.e.f. 24-27 October, 2018 p 100.
5. Renuka Yadav, **Dinesh Kumar** & Veena Agrawal. **2018.** "*Green synthesis of silver nanoparticles using Piper longum L. leaf extract and their strong bio-efficacy studies against Human cervical cancer cell line (HeLa) and Malaria and Dengue vectors"*. Proc. 3rd Annual Conference of Indian Society of Nanomedicine at AIIMS, **New Delhi, India**, w.e.f. 24-27 October, 2018 p 100.

6. **Dinesh Kumar**, Himanshu Saini & Veena Agrawal. **2018.** *"In vitro Elicitation, Isolation and Characterization of conessine bioactive molecule using green bark derived callus cultures of Holarrhena antidysenterica (L.) Wall. and bioefficacy against malaria mosquito vector"* Proc. 'National Symposium on Plant Biotechnology: Recent Trends in Plant Propagation, Genetic Improvement & Industrial Applications' at Arid Forest Research Institute., **Jodhpur, Rajasthan**, w. e. f. 16-18 February, 2018 p 118.
7. **Dinesh Kumar** & Veena Agrawal. **2017**. "*In vitro elicitation of conessine content in bark derived callus of Holarrhena antidysenterica and larvicidal activity of its extract and nanoparticles against malarial vector, Anopheles stephensi"*. National symposium on plant biotechnology: current perspectives on medicinal and crop plants held at CSIR-Institute of Chemical Biology, **Kolkata**, w. e. f. 3-5 march, 2017 p 118.
8. **Dinesh Kumar**, Gaurav Kumar, Ram Das & Veena Agrawal **2016.** *"Green synthesis of nanoparticles using herbal plant extract of Holarrhena antidysenterica and its efficacy against malarial vector*". 1st Annual Conference & Workshop of Indian Society of Nanomedicine held at All India Institute of Medical Sciences, New Delhi w.e.f. 24-26. November, 2016 p 40.

Research Projects (Major Grants/Research Collaboration) (From 1st July 2016 onwards)

Research Projects (Ongoing)
Development of slow-releasing insecticidal Paint formulations and their efficacy against mosquito vectors
Designation: Co-investigator
Institute; at ICMR-National Institute of Malaria Research

Awards and Distinctions (From 1st July 2016 onwards)

No

Association With Professional Bodies

No

Other Activities like MOOCs/ Patents etc. (From 1st July 2016 onwards)

Dinesh kumar

Signature of Faculty Member