



RATNA CHANDRA

Assistant Professor

Department of Biotechnology

Shri Mata Vaishno Devi University

Katra -182320,J&K.

Qualification:

- B.Sc. Botany (Hons.)Miranda House , Delhi University
- M.Sc. (Molecular Biology and Biotechnology)National Research Center on Plant Biotechnology)IARI, Delhi.
- Ph.D. (Molecular Biology and Biotechnology) National Research Center on Plant Biotechnology ,IARI, Delhi.
- One year course on Agricultural Sciences, IARI, Delhi.
- ICAR-JRF
- UGC/CSIR-NET & JRF

Research interest:

- Plant Genetic Engineering& Bt Transgenics
- Organic Agrobiotechnological Entrepreneurship
- Insilico study related to drug designing

Area of Specialization:

- Improvement of crop plants through genetic engineering with microbes.
- Insilico evaluation of EGFR for cancer study
- Drug designing for tuberclulosis

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Invited lectures and Paper Presentations in Workshops/Seminars/Conferences conducted or recognized by Professional agencies:

Neha Rana ,Bavna Bhat,V Verma, Inderpal Singh and Ratna Chandra Understanding the vascular Endothelial Growth Factor Receptor Kinase through Data mining and networking of the Experimental Structures available at PDB in the National Symposium on Recent Trends in Biotechnology and drug discovery (RTBDD-17) 30-31 March 2017, SMVDU.(received first prize)

Supriya Hakeem and Ratna Chandra Docking Studies on Mycobacterium tuberculosis-FtsZ” in Annual Symposium of Indian Biophysical society from 22-25 March 2017 at IISER Mohali.

Bavna Bhat, Neha Rana , V Verma, Inderpal Singh and Ratna Chandra. Mapping of cancer target Aurora A kinase through data mining and networking of its available experimental structures. In the National Symposium on Recent Trends in Biotechnology and drug discovery (RTBDD-17) 30-31 March. SMVDU.

Dna Primase (DNAG) as a potent drug target of *Mycobacterium tuberculosis*. Ratna Chandra* and Supriya Hakeem. Oral paper at in 6th Annual Conference of Molecular Pathologist of India to be held at the KIIT University , Bhubaneswar on 10-11 February 2017 .

Docking studies on Mycobacterium tuberculosis-FtsZ .Supriya Hakeem, Inderpal Singh , Ratna Chandra , V. Verma . In the abstract of Annual Symposium of the Indian Biophysical Society, IISR Mohali, 23rd –25th March, 2017.

Case study on organic agro Biotechnological Entrepreneurial opportunities in J& K region .Oral Paper in the 1st National Case Study Conference -2015 at the SMVDU, Katra ,24th -26th April 2015

In the abstract of Crab –e- Con 2016, Association of Radiation Oncologist of India –North Zone .3rd September 2016.

Sequence modification of *Bacillus thuriengensis* insecticidal crystal protein gene. UGC-CAS National Conference on Biodiversity and Bioresources utilization , Department of Biosciences , Saurashtra University, Rajkot, Gujarat. 17-18 March 2015

Sustainability through Organic Agro Biotechnology with special reference to Jammu and Kashmir scenario. International Congress on Agriculture , Food Engineering and Environmental Sciences – Sustainable approaches., 29th & 30th March 2014, JNU, New Delhi.

Structural comparison of EGFR Kinase Mutants and their effects on the binding affinity of Gefitinib and Erlotinib. Sunil Sharma , Sanjiv Kumar , Inderpal Singh, Ratna Chandra. In the abstract of Multi-disciplinary National Conference SCIENCE COLLOQUIUM Emerging Trends in Basic and Applied Sciences 06-07 March 2014

Comparative Molecular Dynamics Analysis of active Epidermal Growth factor Receptor Kinase in Erlotinib bound and unbound (unliganded state) .(2014) Inderpal Singh , Shashank K Singh, Ratna Chandra . In the abstract of Multi-disciplinary National Conference SCIENCE COLLOQUIUM Emerging Trends in Basic and Applied Sciences 06-07 March 2014

Guest lecture on BT Transgenic: Insect Resistance Management in agriculture at National conference on Bio Life : the amalgamation of multidisciplinary Life Sciences (NCBL 2013) at Sanjay Gandhi Post Graduate Institute of Medical Sciences , Lucknow on 9th and 10th March 2013

Sequence modification of *Bacillus thuriengensis* insecticidal protein gene and the study of the transformed plants for toxicity against *Spodoptera litura* . in the abstract of National seminar on Biotechnological approaches in Pest Management, PAU, Ludhiana May 4th -5th (2012)

Current scenario in business opportunities of Organic Agro Biotechnology in Jammu and Kashmir. National Seminar on Changes Ethos of AgriBusiness Management and Education, Institute of Development studies, University of Mysore , Mysore ,Karnataka. India March19-20.(2010)

Guest Lecture on Genetically Modified Food in food security at one day National seminar on Genetically Modified Foods : Issues and Concerns ,JK State council for S& T ,DST ,J& K sponsored ,GCW ,Parade ,Jammu,30th November 2013.

Guest lecture on –Business opportunities on biopesticides ,biorepellents and biofertilizers in Jammu and Kashmir in the BSDP.(Business Skill Development Programme) organized by Ministry of Micro, small and medium Enterprises ,Govt. of India at IIIM Branch ,Srinagar,Jammu and Kashmir , October 2011

Guest lecture on –Business opportunities on biopesticides ,biorepellents and biofertilizers in Jammu and Kashmir in the BSDP.(Business Skill Development Programme) organized by Ministry of Micro, small and medium Enterprises ,Govt. of India at IIIM ,Jammu ,March 2011

Guest lecture on –Business opportunities in Agrobiotechnology (Entrepreneurship Business Skill Development Programme in Biotechnology) organized by JK EDI under Ministry of MSME ,Govt. of India. April 2009.

Guest lecture on –Business opportunities of Organic Agro Biotechnology in Jammu and Kashmir in the BSDP.(Business Skill Development Programme) organized by Ministry of Micro, small and medium Enterprises ,Govt. of India. March 2010

Published paper in Journals/chapters in books

Inderpal Singh, Gurvinder Singh, Vijeshwar Verma ,Shashank Singh ,Ratna Chandra* In Silico Evaluation of Variable pH on the Binding of Epidermal Growth Factor Receptor Ectodomain to its Ligand Through Molecular Dynamics Simulation in Tumors. Interdiscip Sci Comput Life Sci (2017). <https://doi.org/10.1007/s12539-017-0265-0>

Inderpal Singh, Vijeshwar Verma ,Shashank Singh ,Vladimir N Uversky, Ratna Chandra* *In silico* evaluation of the resistance of the T790M variant of epidermal growth factor receptor kinase to cancer drug Erlotinib. Journal of Biomolecular structure and dynamics.(2017) 1-23.

Punit Kumar Khanna, Ratna Chandra* , Arun Kumar, Nidhi Dogra ,Heena Gupta, Gaurav Gupta, Vijeshwar Verma Development of microsatellite markers and their correlation with morphological and chemical markers in *Withania somnifera*(L.) Dunal ,J. BioSci. Biotechnol.2016, 5(1): 53-60 ISSN: 1314-6246.

Punit K Khanna, Ratna Chandra* ,Arun Kumar ,Nidhi Dogra ,Heena Gupta ,Gaurav Gupta ,V Verma Coorelation between morphological ,chemical and RAPD markers for assessing genetic variability in accession of *Withania somnifera* (L.) Dunal ; J.Crop Sci Biotech. 2014,(March)17(1)27-34.

Ratna Chandra*. Sustainability through Organic Agro Biotechnology with special reference to Jammu and Kashmir scenario.International Journal of Genetic Engineering and Biotechnology, (2014) 5 (2) 169-178.

Rashu Sharma, Tandeep Kaur, Ratna Chandra*, V Dinesh Kumar (2014) Isolation , Cloning and Characterization of insecticidal *cryIAc* gene from the indigenous isolates of *Bacillus thuringiensis* of Jammu region. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 5, Issue 3, pp-233-240.

Rohini Bhatt , Ratna Chandra* and P A Kumar Cloning, molecular characterization and diversity of insecticidal crystal protein genes of *Bacillus thuriengenesis* native isolates from the soils of Jammu region . International Journal of Agriculture, Environment and Biotechnology (2014) Vol 7(1)June.

Punit K . Khanna ,Arun Kumar , Ratna Chandra* and V. Verma Seed germination behavior of *Withania somnifera* (L.) Dunal : a high value medicinal plant ; Physiology and Molecular Biology of Plants (2013) 19 (3) 449-454

Chandra ,R and R. Jaiswal (2006) Agrobacterium mediated legume transformation :emerging factors that influence efficiency. Biotechnol. Mol. Biol. Rev.2; 33-37

Chandra,R and Kumar ,P.A.(2003)Modification of coding sequences of the *Bacillus thuringiensis cryIF* gene and its effect on the toxicity expression against *Spodoptera litura*. Annals of Agri.Res11;27-31.

Chandra ,R and Kumar,P.A.(2003)Truncation and toxicity analysis of *Bacillus thuriengenesis* insecticidal crystal protein gene *cryIF* towards *Spodoptera litura*. New Botanist 17:189-192.

Business opportunities in organic Agro Biotechnology with special reference to J and K scenario. Chapter in the book ,Readings in Agribusiness Management by M Devraj and Anurag Bhatnagar (eds) Excel India publisher New Delhi (ISBN 978-93-80697-88-8) 2011

Ph.D. Students:

09PHDSBT10 Punit Kumar Khanna (thesis submitted)
11PHDSBT 02 Inderpal Singh Bijral (thesis submitted)
14DBT010 Supriya Hakeem (pursuing)

M.Sc./B. Tech dissertations conducted:

35 dissertations completed
3 dissertations in progress