

## CV of Vijay Rani Rajpal

Professor  
Department of Botany  
Hansraj College  
University of Delhi, Delhi 11007  
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### Professional Preparation:

Kurukshetra University, India	Zoology, Botany Chemistry	B.Sc,1987	1 <sup>st</sup> Class
Kurukshetra University India	Botany	M.Sc,1989 <b>(*University Topper, Gold Medalist)</b>	1 <sup>st</sup> Class
Delhi University, India	Botany	M.Phil,1991	1 <sup>st</sup> Class <b>(*University Topper)</b>
Delhi University, India	Botany	Ph.D,1996	Awarded

### Appointments:

#### M.Phil Scholar

Department of Botany

University of Delhi, Delhi, India (1989-1991)

"Genetic differentiation in the evolution of diploid and tetraploid *Medicago* species (Thesis Title)

#### Ph.D. Scholar

Department of Botany

University of Delhi, Delhi, India (1991-1995)

"Potential use of Molecular techniques in the genetic analysis of *in vivo* and *in vitro* propagated tree systems (Thesis Title)

#### Postdoctoral Research Scientist

Department of Botany, University of Delhi, Delhi, India (June 1995-Aug 1996)

Genetic fidelity analysis of tissue culture raised plants by Molecular DNA Markers (Somaclonal Variation)

#### Lecturer in Botany

Department of Botany, Acharya Narendra Dev College, University of Delhi, Delhi, India (Aug 1996-April 1997)

### **Lecturer in Botany**

**Department of Botany, Hansraj College, University of Delhi, Delhi, India**  
(July 1997-July 2000)

### **Senior Lecturer in Botany**

**Department of Botany, Hansraj College, University of Delhi, Delhi, India**  
(July 2000-Nov 2005)

### **Reader in Botany**

**Department of Botany, Hansraj College, University of Delhi, Delhi, India**  
(Nov 2005-Nov 2008)

### **Re-designated to Associate Professor in Botany**

**Department of Botany, Hansraj College, University of Delhi, Delhi, India**  
(Nov 2008-Present)

### **Honors and Awards:**

- State Govt. Merit Scholarship (1987-1989)
- Awarded with a scholarship and a medal for securing top most position in the University in all the four semesters of M.Sc. (1989).
- Awarded with a scholarship from Jawahar Lal Nehru Trust, New Delhi for securing top position in the University in M.Sc.(1989-1991)
- Topped the University in M.Sc, and M.Phil.
- GATE with 98.11 percentile (among top 50 rankers in the country)
- Nominated for "Glory of India Award" by India International friendship Society, New Delhi
- Awarded 33<sup>rd</sup> Dr.Radha Krishnan Memorial National Best Teacher Award, 2017 for exemplary contribution in the field of education
- Awarded by Principal, Hansraj College (Nov 2017), by Alumni Association, Hansraj College (Jan 2018) and by Padam Shree Dr Poonam Suri, DAV Managing Committee ((Jan 2018), for Exemplary contribution as member, Internal quality Assurance Cell (IQAC), Hansraj College and Criteria Convener: Research, Consultancy and Support for the first cycle of NAAC accreditation, of Hansraj College (Grade A<sup>+</sup>; CGPA 3.61)
- Awarded Bharat Ratna Dr APJ Abdul Kalam Memorial Grace India Best Teacher Award, on 87<sup>th</sup> Birth Anniversary of honourable former President of India, for exemplary contribution in the field of education, October 2018
- Awarded Grace India Best Researcher Award 2018

### **Memberships:**

- Member, New York Academy of Sciences, USA
- Life member, Delhi University Botanical Society (DUBS), Department of Botany, University of Delhi

### **Teaching:**

#### **B.Sc (H) Botany**

- Genetics (Core Program) (Sem III)

- Molecular Biology (Core Program) (Sem IV)
- Plant Biotechnology (Core Program) (Sem VI)

## Research Guidance

### Supervision of Doctoral Thesis: 3 (Awarded)

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- **Rakesh Kumar Thakur 2021**, Autotetraploid induction and associated rapid genomic changes as a possible means of genetic improvement, and impact on sex expression in important dioecious *Tinospora* and *Hippophae taxa*.
- **Shweta Mehrotra 2010**, Isolation, Cloning and Characterization of Novel Repetitive sequences from *Carthamus tinctorius* L. and their utilization in Phylogenetic Analysis of genus *Carthamus* L.
- **Avinash Kumar 2009**, Assaying polymorphisms at DNA sequence level for new and novel genetic diversity diagnostics of native tree species and highly endangered and threatened medicinal plant species

## Research Projects (completed; Funded by external agencies)

### Completed Research Projects

- **Principal Investigator (PI)** in NMPB funded project “Autotetraploid induction ensuing heteroploid hybridization and associated rapid DNA changes as a possible means of genetic improvement of a the diploid *Tinospora cordifolia* and *T. sinensis*”, 2014 -2018 (Major) 31.973 L, **Completed**
- **Principal Investigator (PI)** in Delhi University funded Innovation Project entitled “Extraction and utilization of Natural pigments in Cosmetics” HR 303, 2015-2016 (**Completed**) (Minor) 3 L
- **Principal Investigator (PI)** in Delhi University funded Innovation Project “Plant Invasions: Exploring Ploidy Connection” HR 201, 2014-2015 (**Completed**) (Minor) 6 L

### Ongoing Research Projects

- **Principal Investigator (PI)** in DBT funded project "Network Programme for Enrichment and Update of Database on Genome Related Information for Indian Spermatophyta and Archegoniatae Taxa- Phase II" (Major Project) (Oct 2021-2024) 35 L

## Editorial Assignments

Guest Associate Editor, Frontiers in Genetics, Plant Genomics section, IF 4.7, 2021-22  
Research Topic: Current Advances in Genomics and Gene Editing Tools for Crop Improvement in a Changing Climate Scenario <https://www.frontiersin.org/research-topics/22513/current-advances-in-genomics-and-gene-editing-tools-for-crop-improvement-in-a-changing-climate-scenario>

## **Other Academic and Research Activities**

- Invited to guest edit a collection theme of articles by the journal “Frontiers in Genetics”.
- Invited to edit book volumes by Springer’s, Switzerland
- Presented criterion 3, Research before NAAC Peer Team
- Presented STAR College Scheme Proposal before the expert committee at DBT. College was granted the STAR College Scheme Grant
- Delivered invited lectures in various Institutes
- Resource person for training programs and workshops for teachers, students and non-teaching staff
- Convened many FDPs, lectures and training workshops
- Reviewed papers for reputed journals like Physiology and Molecular Biology of Plants, African Journal of Botany, Journal of Biotechnology
- Member of selection committee for recruitment of school & college teachers in various schools and college of Delhi and Panjab
- External Member selection committee for appointment of JRFs in research projects
- Convener and Member for syllabus upgradation, Delhi University
- Contributed to development of resource material for NCERT

## **Administrative Assignments:**

### **College Level**

- Convener, Research Council, Hansraj College, (2021-22)
- Central Admission Convener Special Categories for Hansraj College (2020-21)
- Central Admission Convener for Sciences for Hansraj College (2011-12)
- Superintendent, Theory Examination, Hansraj College (2015)
- Co-ordinating Super-intendent Practical examinations, Hansraj College (2017)
- Secretary, Staff Council, Hansraj College
- Teacher’s representative in College Governing Body
- Convener, College Garden Committee (2011-12)
- Convener, Special Categories Admission 2020-21
- Member, Screening Committee for Promotions for Associate professors in Department of Botany, Hansraj College 2020-21

- Convener, Central Purchase Committee(2018-2020)
- Tender Publisher, Opener and Evaluator, Hansraj College(2018-2020)
- Convener, Criteria III, NAAC SSR (2015-Onwards)
- Convener, Research, Hansraj College (2015-2019)
- Member, IQAC (2017 -Onwards)
- Member, Sama Day Care Center Advisory Committee (2017-Onwards)
- Founder Convener, Green Warriors Club (2019-20)
- Faculty Editor, Passiflora Vol 2, Departmental Magazine (2019-20)
- Coordinator Superintendent, Practical Examinations (2017-18)
- Convener, Ranking Committee (2018-Onwards)
- Overall Coordinator, STAR College (2011-13)
- Co-ordinator, Nodal Officer, Gender Champions, Hansraj College (2017-19)
- Member, Portal Committee (2018-19)
- Member, Annual Day and Foundation Day Committee (2016-onwards)
- Member, Screening Committee for Assistant and Associate Professors, Hansraj College (2019 -onwards)
- Vice-President, IIC, Hansraj College (2019 -2021)
- Member, Editorial Board, Hansshodhsudha, Hansraj College Research Journal (2020)

### **Department of Botany**

- Teacher Incharge (2011-13)
- Purchase, Incharge (2009-10 )
- Library, Incharge ( 2010-11, 2021-22)
- Excursion, Incharge (2013-15)
- Botanical Society, Incharge (1997-2005, 2019-20)
- Herbarium and Museum, Incharge (2018-19)
- Scholarship Committee, Incharge/ Member (2010-11, 15-16, 18- onwards )
- Superintendent, Practical exams (2017-18)
- Garden, Incharge (2016-17, 18-19)
- Moderation Committee, Member (2019-onwards)

### **Research Publications**

#### **Impact Factor/ Citations**

<b>CITATION INDEX:</b>	<b>2126</b>	<b>h INDEX:</b>	<b>15</b>
<b>i10 index:</b>	<b>18</b>	<b>TOTAL IMPACT FACTOR:</b>	<b>115</b>

#### **Publications**

1. Manisha Sharma; Manju Chaudhary; Soom Nath Raina; Dinabandhu Sahoo; Neel Sarovar Bhavesh; Rakesh Kr Thakur; **Vijay Rani Rajpal**, Apekshita Singh "Comparative Analysis of the Efficiency of Seed Protein Profiles in Assessing Genetic Variation and Population Structure Among Indigenous Manipur Black Rice Cultivars". **Molecular Biology Reports (Accepted 21 Dec, 2022) (Impact Factor 2.742)**
2. **Vijay Rani Rajpal\***, S Sharma, D Sehgal, P Sharma, N Wadhwa, A Chandra, P Dhakate, S Deb, R K Thakur, RamaRao S, Bilal Mir, S N Raina\*  
Comprehending the dynamism of B chromosomes in a journey towards becoming unselfish. **Frontiers in Cell and Developmental Biology IF 6.081 (Accepted 13 Dec, 2022, Publ 04 Jan, 2023)**  
<https://doi.org/10.3389/fcell.2022.1072716>
3. **Vijay Rani Rajpal\***, Rathore P, Mehta S, Wadhwa N, Yadav P, Berry E, Goel S\*, Bhat V\* and Raina SN\* (2022), Epigenetic variation: A major player in facilitating plant fitness under changing environmental conditions. **Frontiers in Cell and Developmental Biology IF 6.081 (Accepted; 21 Sept, 2022)** Front. Cell Dev. Biol. 10:1020958. doi: 10.3389/fcell.2022.1020958
4. Amrita Choudhary, Sohini Deb, Banridor Kharbyngar, **Vijay Rani Rajpal\***, Satyawada Rama Rao\* (2022) Dissecting the plant genome through new generation molecular markers. Genetic Resources and Crop Evolution (**Impact Factor 1.876**) ISSN: 0925-9864 (print), 1573-5109 (online); accepted July 7, 2022, DOI 10.1007/s10722-022-01441-3
5. Priyanka Dhakate , Deepmala Sehgal, Samantha Vaishnavi, Atika Chandra, Apekshita Singh, Soom Nath Raina\* and **Vijay Rani Rajpal\*** (2022) Comprehending the evolution of gene editing platforms for crop trait improvement. **Frontiers in Genetics (Impact Factor 4.772) ISSN 16648021; (Corresponding author) accepted 29<sup>th</sup> June, 2022 DOI 10.3389/fgene.2022.876987**
6. **Vijay Rani Rajpal\***, Ishwar Singh and Shrishail S. Navi (2022) Fungal Ecology, Diversity and Biological Control. Springer's , Singapore Series ISSN 2198-7777 <https://link.springer.com/book/9789811688768>, published June 3, 2022
7. Suman Sharma, Avinash Kumar, **Vijay Rani Rajpal**, Apekshita Singh , Sadhna Babbar and Soom Nath Raina (2022) Unravelling the genetic architecture of South Indian Tea germplasm. **Genetic Resources and Crop Evolution (Impact Factor 1.876) ISSN: 0925-9864 (print), 1573-5109 (online); doi: 10.1007/s10722-022-01433-3**
8. **Vijay Rani Rajpal\***, Sharma Shashi, Sehgal Deepmala, Tiwari Mugdha, Kumar Avinash, Singh Apekshita, Bhalla Hemal, Goel Shailendra, Vaishnavi

- Samantha, Raina Soom Nath (2022) A comprehensive account of SARS-COV-2 genome structure, incurred mutations, lineages and Covid-19 Vaccination program. **Future Virology (2022) (Impact Factor 3.01) [www.futuremedicine.com/doi/10.2217/fvl-2021-0277](http://www.futuremedicine.com/doi/10.2217/fvl-2021-0277) , ISSN 1746-0794 (print); 1746-0808 (web); (Corresponding author), published online 16h June, 2022**
9. **Vijay Rani Rajpal\***, Sharma Shashi, Sehgal Deepmala, Tiwari Mugdha, Kumar Avinash, Singh Apekshita, Bhalla Hemal, Goel Shailendra, Vaishnavi Samantha, Raina Soom Nath (2022) Mapping SARS-CoV-2 spike protein evolution during first and second waves of Covid-19 infections in India. **Future Virology (2022) [www.futuremedicine.com/doi/10.2217/fvl-2021-0267](http://www.futuremedicine.com/doi/10.2217/fvl-2021-0267) (Impact Factor 3.01) ISSN, 1746-0794 (print); 1746-0808 (web)(Corresponding author) published online 3<sup>rd</sup> June,2022**
  10. Dhanjay Yaturi, Manju Choudhary, Bhat V, Goel S, Raina SN, Sharma Suman, **Rajpal Vijay Rani**, Singh Apekshita (2022) Overview of developed core and mini core collections and their effective utilization in cultivated rice and its related species. **Plant Breeding (2022) 144 (4) : 501-512. <https://doi.org/10.1111/pbr.13029> (Impact Factor 2.536), ISSN 1439-0523, published 18<sup>th</sup> May 2022**
  11. Satya Prakash#, **Vijay Rani Rajpal#** and Renu Deswal (2022) Phyto-nanotechnology : Recent Applications and the role of Biocorona. Indian Journal of Biochemistry and BioPhysics (IJBB) **Vol 59, pp-405-414. (#Equal 1<sup>st</sup> Author) ISSN 0975-0959 (Online) ; (Impact factor 1.918) , published April 2022, <http://14.139.47.23/index.php/IJBB/article/view/61967>**
  12. **Vijay Rani Rajpal\***, Shashi Sharma, Avinash Kumar, Shweta Chand, Lata Joshi, Atika Chandra, Sadhna Babbar, Shailendra Goel, Soom Nath Raina, Behrouz Shiran (2022) Is Omicron mild? Testing this narrative with the mutational landscape of its three lineages and response to existing vaccines and therapeutic antibodies. **Journal of Medical Virology 2022: 94: 3521-3539.. ISSN, 1096-9071; Doi. 10.1002/jmv.27749 , (Impact Factor: 20.693) (Corresponding author) published 30<sup>th</sup> March 2022**
  13. **Vijay Rani Rajpal\***, Apekshita Singh, Avinash Kumar, Suman Sharma, Soom Nath Raina (2022) Deciphering species relationships between the wild and cultivated species of genus *Medicago* based on seed protein profiles. Proceedings of the National Academy of Sciences, India Section B: Biological Sciences. ISSN 03698211, 22501746; DOI: 10.1007/s40011-021-01328-w (Impact factor 1.404) (Corresponding Author) accepted Nov 15, 2021
  14. **Vijay Rani Rajpal\***, Soom Nath Raina, Suman Sharma, Satyawada Rama Rao (2022) Chromosome complements and karyological studies in *Medicago* species. **Cytologia 87(2) 113-118 (Impact factor 1.2) ISSN 1348-7019. Print ISSN : 0011-**

15. Aditi Jha and Vijay Rani Rajpal\* (2022) **Revolutionizing Indian Education with National Education Policy 2020**, Hansshodhsudha Vol. 2, Issue 3, (2022), pp. 20-25 ISSN: 2582-9777
16. Aditi Jha, Mahi Jain and Vijay Rani Rajpal\* (2021) Why do we need regulations in genetic manipulations? Hansshodhsudha Vol. 1, Issue 4, pp. 81-88 ISSN: 2582-9777
17. Avinash Kumar, Vijay Rani Rajpal\*, Ambika, Debarumath R, Amita Kumari, Pradeep Kumar, SMS Chauhan and Raina SN, (2021) Molecular DNA fingerprinting and HPLC assisted chemical prospecting with two Iridoid compounds in natural populations of an industrially important and endangered medicinal Indian Himalayan herb *Picrorhiza kurroa*. **Physiology and Molecular Biology of Plants** 27: 727-746 (Impact Factor: 3.023) doi: 10.1007/s12298-021-00972-w. (Corresponding Author) accepted 7 march 2021
18. A Singh, SN Raina, M Sharma, M Chaudhary, S Sharma and Vijay Rani Rajpal (2021) "Functional Uses of Peanut (*Arachis hypogaea* L.) Seed Storage Proteins" In : Grain and Seed Proteins Functionality, **Intech open Ltd. UK. ISBN 978-1-83968-590-3**
19. Rakesh Kumar Thakur, Vijay Rani Rajpal\*, S.N.Raina, Pawan Kumar, Anand Sonkar, Lata Joshi (2020) UPLC-DAD Assisted Phytochemical Quantitation Reveals a Sex, Ploidy and Ecogeography Specificity in the Expression Levels of Selected Secondary Metabolites in Medicinal *Tinospora cordifolia*: Implications for Elites' Identification Program. **Current Topics in Medicinal Chemistry** 2020: 20; 698-709. (Impact Factor : 3.57) (Corresponding Author) doi: 10.2174/1568026620666200124105027.
20. Thakur Rakesh, Vijay Rani Rajpal et al (2020) Induction and evaluation of colchitetraploids of two species of *Tinospora* Miers. 1851. **Comparative Cytogenetics** 14(2): 211-229 (Impact factor: 1.8)
21. Rajpal, V.R., Sehgal, D., Kumar, A., Raina, S.N. (Eds.) 2019 Genetic Enhancement of Crops for Tolerance to Abiotic Stress: Mechanisms and Approaches, Vol. I, eBook ISBN 978-3-319-91956-0, Hardcover ISBN 978-3-319-91955-3, **Springer's**
22. Rajpal V.R, Deepmala Sehgal and S. N. Raina (Eds.) 2019 Genomics Assisted Breeding of Crops for Abiotic Stress Tolerance, Vol. II, ISBN 978-3-319-99573-1 **Springer's**



23. Singh A, Raina SN, **Vijay Rani**, Singh AK (2018) Seed protein fraction electrophoresis in peanut (*Arachis hypogaea* L.) accessions and wild species. **Physiology and Molecular Biology of plants 24 : 465-481 (Impact factor 3.023)**
24. Sehgal Deepmala, Singh R, **Rajpal VR** (2016) Quantitative trait loci mapping in plants: Concepts and Approaches. In: Rajpal VR, Rao SR and Raina SN (ed) Molecular Breeding in Sustainable Crop Improvement, Volume 2, ISSN 2352-474X, ISSN 2352-4758 (e-book), ISBN 978-3-319-27090-6 (2016), **Springer's**
25. **Rajpal VR**, Rao SR, Raina SN (Eds) (2016) Gene Pool Diversity and Crop Improvement, Volume 1, ISSN 2352-474 X, ISSN 2352-4758 (e-book), ISBN 978-3-319-27096-8, **Springer's**
26. **Rajpal VR**, Rao SR, Raina SN (Eds) (2016) Molecular Breeding for sustainable crop improvement, Volume 2, ISSN 2352-474X, ISSN 23s2-4758 (e-book), ISBN 978-3-319-27090-6, (2016), **Springer's**
27. Mehrotra S., Goel S, S. Sharma, S. N. Raina and **V. R. Rajpal**. 2014. Significance of satellite DNA revealed by conservation of wide-spread repeat DNA sequence among angiosperms. . **Applied Biochemistry and Biotechnology 173(7): 1790-1801 (Impact factor: 3.094)** doi: 10.1007/s12010-014-0966-3.
28. Kumar Avinash, **Rajpal Vijay Rani**, Raina Ravinder, Chaudhary Manju, Raina SN (2014) Nuclear DNA assay of the wild endangered medicinal and aromatic Indian Himalayan *Valeriana jatamansi* germplasm with multiple DNA markers: implications for genetic enhancement, domestication and ex situ conservation. **Plant Systematics and Evolution 300 (9), 2061-2071 (Impact factor: 1.644)**
29. **Vijay Rani Rajpal**, Sarita Sharma, Rachhaya M. Devarumath, Manju Chaudhary, Avinash Kumar, Neeraj Khare and S.N. Raina (2014) Nuclear and Organelle DNA Fingerprints as the Most Useful Markers to Evaluate Genetic Integrity of Micropropagated Plants. In: Ramawat NS (ed) Tree Biotechnology. **CRC Press. Boca Raton, pp 303-332**
30. Mehrotra S., Goel S, S. Sharma, S. N. Raina and **V. R. Rajpal**. 2013. Sequence Analysis of KpnI Repeat Sequences to Revisit the Phylogeny of the Genus *Carthamus* L. **Applied Biochemistry and Biotechnology 69:1109-1125 (Impact factor: 3.094)**
31. Raina SN, Jain S, Sehgal D, Kumar A, Dar TU, Bhat V, Pandey V, Vaishnavi S, Bhargav A, Singh V, **Rani V**, Tandon R, Tewari M, Mahmoudi A 2012. Diversity and relationships of multipurpose seabuckthorn (*Hippophae* L.) germplasm from the Indian Himalayas as assessed by AFLP and SAMPL markers. **Genet Resour and Crop Evol, 59: 1033-53 (Impact factor: 1.876)**

32. Sehgal DeepMala, **Rajpal VR**, Raina SN, Sasanuma T, Sasakuma T (2009) Assaying polymorphism at DNA level for genetic diversity diagnostics of the safflower (*Carthamus tinctorius*) world germplasm resources. **Genetica** 135(3): 457-470 (**Impact factor: 2.148**)
33. Sehgal DeepMala, **Rajpal VR** and Raina SN (2008) Chloroplast DNA diversity reveals the contribution of two wild species in the origin and evolution of diploid safflower (*Carthamus tinctorius* L.) **Genome** 51: 638-643 (**Impact factor: 2.152**)
34. Debarumath R, Nandy S, **Rani V**, Raina SN (2002) Molecular DNA markers-based assessment of genetic fidelity of enhanced axillary branching - derived plants of three diploid ( $2n=2x=30$ ) and triploid ( $2n=3x=45$ ) tea clones representing *Camellia sinensis* and *C. assamica* clones. **Plant Cell Reports**: 21: 166-173 (**Impact factor: 4.964**)
35. **Rani V**, Raina SN (2002) Molecular DNA markers for the assessment of genetic integrity of micropropagated tree species. In : Jain SM and Ishii K (eds) Micropropagation of Woody Tree and Fruits. **Kluwer Acad Publ.** pp. 75-102
36. **Rani V**, Parida A, Raina SN (2001) Chromosome number dependent genome size and RAPD fingerprinting diagnostics for genetic integrity of enhanced axillary branching derived plants of ten forest tree species. **Acta Horticulturae** 560:531-534 (**Impact factor: 0.230**)
37. Raina SN, **Rani V**, Kojima T, Ogihara Y, Singh KP, Devarumath M (2001) RAPDs and ISSRs as useful genetic markers for analysis of genetic diversity, varietal identification and phylogenetic relationships in peanut (*Arachis hypogaea*) and wild species. **Genome** (2001); 44: 1-10 (**Impact factor: 2.152**)
38. Raina SN, **Rani V** (2001) GISH technology in plant genome research. **Methods in Cell Science** 23:83-104 (**Impact factor: 1.2**)
39. **Rani V**, Raina SN (2000) Genetic fidelity of organized meristem derived micropropagated plants: a critical reappraisal. **In Vitro Cellular Developmental Biology (IVCDB) Plant** (2000) 36: 319-330 (**Impact factor: 2.252**)
40. **Rani V**, Singh K P, Shiran M, Nandy S, Goel S, Sreenath HL, Raina SN (2000) Evidence for new nuclear and mitochondrial genome organizations among high frequency somatic embryogenesis-derived plants of allotetraploid *coffee arabica* L. (Rubiaceae) **Plant Cell Reports** (2000) 19: 1013-1020 (**Impact factor: 4.964**) doi: 10.1007/s002990000228.
41. **Rani V**, Raina SN (1998) Genetic analysis of enhanced axillary branching derived *Eucalyptus tereticornis* and *E. camaldulensis* plants. **Plant Cell Reports** (1998) 17(3) 236-242 (**Impact factor: 4.964**) doi: 10.1007/s002990050385.

42. **Rani V**, Raina SN (1998) Genetic Diagnostics in Micropropagation System. In: Gupta PK (ed) Genetics and Biotechnology in Crop Improvement. Rastogi Publ, Meerut, India, 465-474
43. Garg L, Bhandari NN, **Rani V**, Bhojwani SS (1996) Somatic embryogenesis and regeneration of triploid plants in endosperm cultures of *Acacia nilotica* **Plant Cell Reports** 15:855-858 (Impact factor: 4.964)
44. **Rani V**, Parida A, Raina SN (1995) Random amplified polymorphic DNA (RAPD) markers for genetic analysis of micropropagated plants of *Populus deltoides* **Plant Cell Reports** (1995); 14:459-462 (Impact factor: 4.964) doi: 10.1007/BF00234055.

### Popular Articles

1. **Rani V**, Raina SN (1996) PCR Technology. The Botanica 46: 78-81
2. **Rani V**, Goel S, Raina SN (1997) Recent Trends in Biotechnology. The Botanica 47: 138-149
3. **Rani V**, Raina SN (1998) Forthcoming terminator and allied gene technologies: implications for the agriculture economy based nations. The Botanica 48(1): 93-98

### Publications in Conference Proceedings (19)

1. **Rani V**, Raina SN (1996) Genetic analysis of somaclonal variation in micropropagated plants of *Populus deltoides*. Proc. Natl Symp Plant Tissue Culture: Commercialization, Diversification of agriculture and Preservation of Fragile Ecosystems and XIX Meeting of the Plant Tissue Culture Association of India. April 10-12, G.B Pant Univ of Agriculture and Technology , pp 13-14
2. **Rani V**, Singh KP, Raina SN (1999) Molecular markers as an aid to evaluate genetic integrity of forest tree species regenerated *in vitro*. Proc. International Tree Biotechnology Meet NCL, Pune, Nov 17-19 , pp 24-26
3. **Rani V**, Raina SN (2000) Molecular DNA markers for genetic analysis *in vitro*. *In vitro* Culture and Horticultural Breeding Symposium, July 2-7, Tampere, Finland
4. **Rani V**, Raina SN (2000) Impact of molecular markers on the evaluation of genetic stability/instability of micropropagated tree species. Proc Natl Symposium on Man and Forests Feb 18-19, Panjab University , Chandigarh, India, pp 41

5. Raina SN, **Rani V** (2001) Molecular DNA markers as an aid to evaluate genetic integrity of micropropagated plants. Proc. 4th intl Plant Tissue Culture Conference Nov 1-3, Bangla Desh Association for Plant Tissue Culture, Dhaka, Bangladesh, pp82
6. **Rani V**, Raina SN (2001) Molecular markers based assessment of genetic fidelity of organized meristem-derived micropropagated plants. Proc. Golden Jubilee Symposium on “ Biotechnological innovations in conservation and analysis of Plant Diversity”. Delhi University Botanical Society. Pp 51
7. Avinash A, Dar TH, **Rajpal VR**, Raina SN (2010) Pattern of genetic variation in critically endangered medicinal Himalayan herb *Gentiana kurroo* using DNA markers. ICFHM- OC 8
8. **Vijay Rani Rajpal**, Avinash Kumar, Raina SN (2012) Molecular techniques for sustainable use and effective conservation of the germplasm. Proc National Workshop on Medicinal Plant Species-Scientist, Grower and Industry Interaction, INSA, New Delhi, pp14 (Invited Lecture)
9. Ambica, Anjali, **Vijay Rani Rajpal** (2016) “Herbal Cosmetics” with anticancer and antimicrobial properties. J Mat. NanoSci 3(1), S1-S23, S15
10. **Vijay Rani Rajpal**, Rakesh Thakur, Anand Sonkar, S. N. Raina (2016) Quantitative Estimation of Berberin using TLC and HPLC in *Tinospora cordifolia*, *T.sinensis* and *T. crispa*. J. Integr. Sci. Technol 42 :S1-S23, S2
11. **Vijay Rani Rajpal**, Ambica, Anjali (2016), Project HR 303, poster presentation entitled “ Extraction and utilization of natural pigments in cosmetics” Research Council, Delhi University, Delhi, **Best Poster Award**
12. **Vijay Rani Rajpal** Ambica, Anjali (2018) “Herbal Cosmetics” with anticancer and antimicrobial properties. Poster presentation, National Science Day jointly organized by INSA, Delhi And IASC Bangalore at INSA, New Delhi on February 28, 2018
13. Avinash Kumar, Kumari A, **Vijay Rani Rajpal**, Raina SN (2018) Pattern of genetic variation in endangered medicinal Himalayan Herb, Picrorhiza kurroa, assessed using DNA markers, implications for genetic enhancement and ex situ conservation. 7th international conference on “Biodiversity Conservation and Ecosystem Management, July 26-27, 2018, Melbourne, Australia
14. Rakesh Kr Thakur, **Vijay Rani Rajpal**, V. Singh and S. N. Raina (2018) Induced autotetraploidy in *Hippophae rhamnoides* subsp. *turkestanica*. Poster presentation in National Conference on Seabuckthorn, Oct. 23-25, 2018 at Shimla, **Best Poster Award**
15. Rakesh Thakur, **Vijay Rani Rajpal**, U Sharma and Raina SN (2019) Genetic profiling and bioactive constituents prospecting of synthetic autotetraploids of medicinally important *Tinospora cordifolia*. 9<sup>th</sup> Annual International Conference

- on Medicinal, Aromatic and Nutraceutical plants from mountainous areas, Feb 14-16, 2019, **Best Paper Presentation Award**
16. Aditi Jha, **Vijay Rani Rajpal\*** (2021) “Revolutionizing Indian education with NEP 2020” Paper **Presentation in National FDP on “Roadmap for building new India with NEP 2020” on 21-25 July 2021**, Faculty Development Center, Hansraj College, Delhi University, India
  17. Rakesh Kumar Thakur, **Vijay Rani Rajpal\***, S. N. Raina and Anand Sonkar (2021) Synthetic autotetraploids of *Tinospora cordifolia*. Poster presentation in **International Conference** on Genetics and Genomics technologies for crop improvement. Jointly organized by CIMMYT Mexico and Department of Botany, Hansraj College, University of Delhi, **1<sup>st</sup> to 3<sup>rd</sup> Aug, 2021**, pp 18.
  18. Satya Prakash, **Vijay Rani Rajpal**, Samantha Vaishnavi, Renu Deswal (2021) Phyto-Nanotechnology: Current status, Challenges and Leads for the future. Poster presentation in International Conference on “ Nanomedicine: Biomolecules for Human Health (NBHH 2021), **27-28<sup>th</sup> September, 2021**
  19. Rakesh Kr Thakur, S N Raina, **Vijay Rani Rajpal (2022) UPLC DAD quantification reveals sex and ploidy specificity in the expression of secondary metabolome of Giloe**. Oral presentation in International Conference (2<sup>nd</sup> ICBTM Conference). Dec 6-8, New Delhi <https://www.icbtmconference.com/index.html>

### **Invited Talks and Resource Person (13)**

1. **Invited Guest lecture** on “Effective Conservation and Sustainable Use of Biological Diversity in Indian Medicinal Plants” at Centre for Environmental Studies, Women Christian College, Chennai on Oct 1, 2021
2. **Invited Guest Lecture and Panelist**, on World Environment Day at Aditi Mahavidyalaya, University of Delhi, June 5, 2021
3. **Invited Guest Lecture**, Genetic improvement of wonder drug plant: Giloy at P.G. Department of Botany, Dev Samaj College for women, Ferozepur on May 11<sup>th</sup>, 2021.
4. **Invited Speaker and Resource person** in the workshop for “Hands on training program for the laboratory staff” June 13-19, 2019, Hansraj College, Delhi University
5. **Invited Speaker** Lecture delivered to **Doctoral students at TERI-SAS University** on April 17, 2018
6. **Invited Speaker and Resource person** for training of Lab Staff, Computer and ICT applications, Hansraj College, University of Delhi, 2017
7. **Invited Speaker** in Grace India workshop on “How to get research papers published in Right Journals”, October 7, 2017
8. **Invited Talk, Resource Person**, Inspire Science Camp, Hansraj College, University of Delhi, December 2017
9. **Invited Talk and Resource person** in workshop ‘Skill enhancement of Laboratory Staff’, Hansraj College, 2015

10. **Invited Talk and Resource person in Genetics** in the INSPIRE training programme, organized by HansRaj College, University of Delhi, during December 17-21, 2012
11. **Invited speaker**, in National Conference on “ Medicinal Plants : Scientist, Grower and Industry Interaction” on March 23, 2012 at INSA, New Delhi
12. **Invited Talk and Coordinator**, workshop for Botany teachers of various DU colleges 2006, Department of Zoology, University of Delhi. A hands on training was given on experiments like DNA extraction, ELISA, and Phylogenetic Analysis using soft wares like UPGMA, Phylip etc
13. **Invited Talk** for a lecture cum interactive session on Gene Therapy during in-service Master training Programme for PGTs in Biology from May 30 to June 4, 2005 in DAV NOIDA School Sector 56