




Faculty Details proforma for DU Web-site

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Title	Professor	First Name	Veena	Last Name	Agrawal	Photograph
Designation		Professor				
Address		Department of Botany North Campus University of Delhi Delhi – 110007				
Phone No	Office	+91-11-27666802				
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Web-Page		www.du.ac.in				
Educational Qualifications						
Degree		Institution			Year	
Ph.D. Botany		Kurukshetra University			1982	
M.Sc. (Botany)		---do--			1977	
B.Sc. (Med.)		---do--			1975	
C. C. in French		---do--			1979	
Career Profile						
Organisation / Institution		Designation		Duration	Role	
Univ. of Delhi		Professor <i>erstwhile</i> UGC Research Scientist 'C' (Professor)		Nov. 2003- to till date	Teaching & Research	
Univ. of Delhi		UGC Research Scientist 'B' (Reader)		Nov.1995- Nov.2003	Teaching & Research	
Univ. of Delhi		UGC Research Scientist 'A' (Lecturer)		Nov. 1990 - Nov. 1995	Teaching & Research	
Univ. of Delhi		R.A. (CSIR)		Feb.1986- Nov. 1990	Research & Teaching	
Kurukshetra University		Pool Officer, CSIR		Feb. 1983 to Feb. 1986	Research & Teaching	

Administrative Assignments

- Serving as Nominated Member of various administrative committees constituted by the **University Grants Commission**, New Delhi w.e.f. May, 2009 to till date.
- Nominated Member of Expert panel of selection committee by the Department of Higher Education Ministry of Human Resource Development, Govt. of India, New Delhi for selection of the candidates for foreign scholarships w.e.f. 2008 to till date.
- Member of Expert panel of U.G.C., U.P.S.C (New Delhi), Central/State Universities, Council of Forest Research, Dehradun.
- Member Committee of Courses and Studies in Botany, Jai Narain Vyas University, Jodhpur (Rajasthan).
- Member Board of Studies in Botany, Jamia Hamdard, New Delhi. Member Committee of Courses, M.D. University, Rohtak (Haryana), Jan. 31, 2013 to till date.
- Served as Superintendent of Examination for M.Sc. Botany during November –December, 2013.
- Served as Vice-Chancellor's Nominee for admission on Sports Category in PGDAV College, Univ. of Delhi from July 4-6, 2013.
- Served as Vice-Chancellor's Nominee for admission on Sports Category in Dayal Singh College, Univ. of Delhi from July 11-13, 2013.
- Member, Delhi University Flower Show Committee (2012 to till date).
- Member M.Sc. Admission Entrance Examination Committee (1999 to 2011).
- Served as Member of Subcommittees for restructuring of M.Sc. and M.Phil. Courses 2005-2007 and 2009 (Semester System) at Dept. of Botany, Delhi University.
- Working as observer, in the University Flying Squad Team appointed by Controller of Examination (1998- to till date).
- Member Central Instruments Facilities (HPLC) Committee.
- Teacher in charge Central Plant Tissue Culture Lab., Glass Houses, Deptt. of Botany (2002 to 2012).
- Teacher In-charge of M.Sc. Teaching Laboratory (2009 – till date).
- Member Departmental Library Committee (2001–2002; 2008 to 2011).
- Member Departmental Purchase Committee for Equipment's of Central Instrumentation Facility (2008-to - 2011).
- Served as Member Departmental Garden Committee (2001-2002)

Areas of Interest / Specialization

Plant tissue culture and biotechnology (Micropropagation and genetic transformation), evaluation, isolation and metabolic engineering of naturally occurring anticancerous, larvicidal bioactive compounds from medicinal plants, development of sex-linked molecular markers for dioecious crops, molecular basis of metal stress-induced phytotoxicity and its amelioration.

Subjects Taught

- **Teaching Experience of 30 years at P.G. level: Courses taught at M.Sc. level:** Cell biology & Plant biotechnology (plant tissue culture & genetic transformation), Archegoniatae, Biology of Bryophytes, Pteridophytes & Gymnosperms (Conifers biotechnology).
- **Courses taught at M.Phil. level:** Topics in Experimental Embryology, Molecular Biology & Genetics.
 - **Currently teaching Two Courses to M.Sc. SEM-II- Plant Biotechnology and Resource Utilization,**
 - **SEM- IV- In vitro Technology and Industrial Applications.**
 - **Teaching to Ph.D. Course:** (i) Methods for Molecular techniques and tissue culture.
(ii) Methods for Physiology and Biochemistry

RESEARCH GUIDANCE: Guided research to 30 students (13 Ph.D. +17 M.Phil.) who have Completed their theses and obtained Degrees). Presently 6 Ph.Ds. and one DST young Scientist are working with me. Besides, more than 20 students have completed their M.Sc. dissertation under my supervision. Imparting training to M.Sc. SEM-IV students (2-3) for their dissertation, every year

Sr. No.	Name of Candidate	Title of Ph.D. Thesis	Status	Year of Award
1.	Vinay Shankar	Studies of abiotic stress induced physiological and biochemical changes during <i>in vitro</i> morphogenesis of chickpea (<i>Cicer Arietinum</i> L.) and their amelioration through antioxidant glutathione.	Awarded	2013
2.	Kuldeep Sharma	Studies on sexual dimorphism in <i>Simmondsia chinensis</i> (Link) Schneider: Differential morphogenic behaviour and DNA fingerprinting.	Awarded	2010
3.	Anuradha Yadav	In vitro micropropagation in six novel genotypes of chickpea (<i>Cicer arietinum</i> L.)- a recalcitrant crop.	Awarded	2010
4.	Vibha Pandey	Bioprospecting of <i>Spilanthes</i> species-micropropagation and bioassay guided isolation of larvicidal compounds against malaria and filarial vectors.	Awarded	2010
5.	Behrooz Mohammad Parast	<i>In vitro</i> evaluation of some anticancerous compounds from <i>Psoralea corylifolia</i> and <i>Centella asiatica</i> and molecular analysis of key enzyme gene (<i>psoralen synthase</i>) involved in psoralen synthesis.	Awarded	2010
6.	Divya Bhatt	Genetic transformation of tomato (<i>Solanum lycopersicum</i> L. cv. Pusa Ruby) for improved tolerance to salt stress.	Awarded	2010
7.	Ravindra Kumar	Isolation and identification of genes involved in development and differentiation in Anthers of <i>Nicotiana tabacum</i> by suppression subtractive hybridization.	Awarded	2007
8.	Pratima Rani Sardar	<i>In vitro</i> morphogenic studies in two traditional medicinal taxa: <i>Cassia angustifolia</i> Vahl and <i>Terminalia bellerica</i> Roxb.	Awarded	2007
9.	Ranjana Roy	Stress tolerance studies of three tomato cultivars and <i>Agrobacterium</i> mediated transformation of cultivar 'PUSA Ruby' with <i>bspa</i> gene for drought tolerance.	Awarded	2006
10.	Ram Singh	Effect of a <i>Sesbania sesban</i> var. bicolor: isolation cloning and characterization of gene coding for boiling stable protein	Awarded	2005

11.	Shahnaz Subhan	<i>In vitro</i> propagation of three medicinal taxa: <i>Centella asiatica</i> (Linn.) Urban, <i>Psoralea corylifolia</i> Linn. and <i>Vernonia anthelmintica</i> Willd	Awarded	2003
12.	Surya Prakash	<i>In vitro</i> morphogenic studies in Jojoba [(<i>Simmondsia chinensis</i> (Link) Schneider]	Awarded	2002
13.	Gaurav Sharma	Bioprospecting of <i>Artemisia annua</i> L. micropropagation, bioassay driven isolation and elicitation of artemisinin effective against vectors of malaria, filarial, dengue and Japanese encephalitis.	Thesis Submitted in June,2013	--
14.	Siva P.K. Chetri	<i>In vitro</i> strategies for enhanced production of anticancerous compounds, Sennoside A and B from <i>Cassia angustifolia</i> and cloning of isochorismate gene involved in anthraquinone biosynthesis	On going	--
15.	Monika Heikrujam	Molecular and biochemical aspects of somatic embryogenesis in leguminous plants and molecular marker assisted selection of male and female plants in jojoba (<i>Simmondsia chinensis</i> (Link) Schneider): a dioecious and an oil yielding crop.	On going	--
16.	Himanshi Kapoor	Biochemical and functional studies of some medicinal plants in relation to cancer or neurological disorders.	On going	--
17.	Rajeshwari Nanda	<i>In vitro</i> studies on abiotic stress in economically important plants.	On going	--
18.	Dinesh Kumar	<i>In vitro</i> morphogenesis and phytochemical analysis of bioactive compounds from some anticancerous plants.	On going	--
19.	Upasana Sharma	Biotechnological and biochemical aspects of some endangered medicinal plants.	On going	--

(b) M.Phil. 17 (All have been awarded degree by Delhi Univ.)

Sr. No.	Name of Candidate	Title of M. Phil. Dissertation	Status	Year of Award
1.	Saransh Gupta	Biotechnological approaches for elicitation of bioactive compounds: Establishment and optimization of hairy root culture for enhanced production of artemisinin in <i>A. annua</i> L.	Awarded	2013
2.	Mohd. Razaq	<i>In vitro</i> morphogenic, biochemical and molecular diversity of antimalarial plant <i>Spilanthes</i> spp.	Awarded	2012
3.	Prince Chaubey	<i>In vitro</i> studies on <i>Jatropha curcas</i> , an important biodiesel crop.	Awarded	2012
4.	Veena T.	Study of plant metabolomics and impact of heavy metal stress on <i>in vitro</i> regeneration in a medicinal herb <i>Spilanthes calva</i> L.	Awarded	2009
5.	Vibha Aggrawal	Biotechnological aspects of <i>Stevia rebaudiana</i> (an antidiabetic plant): Mass production and Impact of heavy metal stress	Awarded	2008
6.	Siva P. K. Chetri	<i>In vitro</i> studies on <i>Tephrosia purpurea</i> and its bioefficacy against <i>Spodoptera litura</i> , a polyphagous pest.	Awarded	2007
7.	Satish Kumar	Effect of metal stress on <i>in vitro</i> regeneration of traditional medicinal taxon <i>Cassia angustifolia</i> (Senna)	Awarded	2007

8.	Deepak Bhardwaj	Studies on abiotic stress: effect of NaCl, sorbitol, drought and ABA on seed germination and protein profiles of a desert legume- <i>Tephrosia purpurea</i> Pers.	Awarded	2006
9.	Mukesh Kumar	Effect of salt stress on <i>in vitro</i> morphogenesis of Chickpea (<i>Cicer arietinum</i> L.) Genotypes.	Awarded	2005
10.	Sheetal Sharma	Micropropagation of <i>Arnica Montana</i> L.: A medicinally valuable endangered plant.	Awarded	2004
11.	Satendra Khari	Effect of some Heavy Metals on <i>in vitro</i> morphogenesis and Psoralen content in <i>Psoralea corylifolia</i> L.: An endangered medicinal legume	Awarded	2004
12.	Anuradha Yadav	<i>In vitro</i> plantlet regeneration in a drought tolerant variety BGD 72 of chickpea (<i>Cicer arietinum</i> L.)	Awarded	2003
13.	Kuldeep Sharma	Influence of Heavy Metals on <i>in vitro</i> morphogenesis in <i>Holarrhena antidysenterica</i> (L.) Wall. Tree.	Awarded	2003
14.	Rajni Goswami	<i>In vitro</i> morphogenic studies in <i>Cinnamomum camphora</i> (L.) Ness & Eberm. Tree: A potential source of camphor	Awarded	2002
15.	Ravindra Kumar	<i>In vitro</i> morphogenesis and protein profile of differentiating and non differentiating tissues of <i>Holarrhena antidysenterica</i> (L.) Wall Tree	Awarded	2002
16.	Vikrant Nain	Somatic embryogenesis in jojoba [<i>Simmondsia chinensis</i> (Link) Schinder] - A potential source of liquid wax.	Awarded	2000
17.	Kumar Ji Rout	Micropropagation of Indian Coral Tree <i>Erythrina indica</i> Lam. A multipurpose nitrogen- fixing legume	Awarded	1999

Publications Profile

List against each head (If applicable) (as Illustrated with examples)

Books/Monographs/Journal (Authored/Edited): Book Edited:

- i. Mahapatra, S.C., and Agrawal, Veena. (Eds) 2013. Proc. 2nd International Symposium on Medicinal and Nutraceutical Plants. Acta Hort., Volume 972, International Society of Horticultural Sciences (ISHS), Belgium.
- ii. Editor: **Journal *Phytomorphology*** - An International Journal of Plant Sciences published by Dept. of Botany, Univ. of Delhi.

<u>Year of Publ.</u>	<u>Title of Chapters</u>	<u>Publisher</u>	<u>Co-Author</u>
2013	<i>In Vitro</i> Pollination and Fertilization- A Recent Update. <i>In</i> : Sharma, H. P. (Ed.), Plant Tissue Culture: Totipotency to Transgenic pp. 159-178.	Agrobios, India	Sharma, K.
2012	Medicinal plants as potential source of Biopesticides. <i>In</i> : Ahmad, A., Siddiqi, T.O. & Iqbal, M. (Eds), Medicinal Plants Research Progress & Environmental Concern., pp.281-304.	Capital Publish. Co., New Delhi.	Pandey, V.

2007	Micropropagation of a traditional medicinal plant, Akarkara (<i>Spilanthes acmella</i> L.) and its bioefficacy against malaria vectors <i>Anopheles stephensi</i> Liston and <i>Culex quinquefasciatus</i> . In: (Kukreja et. al. Ed., Proc. Natal. Symp. Pl. Biotech: New Frontiers, CIMAP, Lucknow. pp. 18-27.	Central Inst. of Medicinal and Aromatic Plants (CIMAP), Lucknow	Pandey V., Sharma Kuldeep, Raghavendra K. and Singh S.P.
2006	Chapter: Plant Responses Under Heavy Metal Stress: In: Trivedi, P.C. (Ed.); Industrial Pollution and its Management. pp. 237-260.	Avishkar Publishers, Jaipur	--
2000	Somatic embryogenesis in jojoba (<i>Simmondsia chinensis</i>). In: Jain, S.M.; Gupta, P.K. & Newton, R.J. (eds), Somatic Embryogenesis in Woody Plants. pp. 587-604.	Kluwer Acad. Pub., Dordrecht.	Prakash, S. & Gupta, S.C.
1999	Differential hormonal requirements for <i>in vitro</i> clonal propagation of male and female jojoba plants. In: Altman, A.; Ziv, M. & Izhar, S. (eds), Plant Biotechnology and <i>In vitro</i> Biology in the 21st Century. pp. 25-28.	Kluwer Acad. Publish. Netherlands	Prakash, S. & Gupta, S.C.
1997	Rapid micropropagation of <i>Populus euramericana</i> trees by callus culture. In Pareek, L.K & Swarankar, P.L. (eds) Trends in Plant Tissue Culture and Biotechnology. p. 261-270.	Agro- Botanical Pub. Bikaner (Rajasthan)	Gupta, S.C.
1992	Micropropagation of woody taxa and plant productivity. In: Prasad, B.N.; Ghimire, G.P.S. & Agrawal, Veena P. (Eds.), Role Biotech. Agri., Kathmandu, Nepal. p. 37-52.	Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.	Gupta, S.C.
1985	Fruit and Seed morphology in relation to adulteration. In: Govil, C.M. (ed.), Trends in Plant Research, pp. 244-251.	Meerut Univ., Meerut (U.P.).	Lamba, L. C

2. Research papers published in Refereed/Peer Reviewed Journals

Publications In Indexed/Peer Reviewed Journals:

- iii. Sharma G. & Agrawal Veena. 2013. Marked enhancement in the artemisinin content and biomass productivity in *Artemisia annua* L. shoots co-cultivated with *Piroformospora indica*. **World J Microbiol Biotechnol.** 29:1133-1138. Springer (IF: 1.53)
- iv. Agrawal, Veena, Parast B.M. & Chetri, S.P.K. 2013. *In vitro* evaluation of an anticancerous compound psoralen from *Psoralea corylifolia* and molecular analysis of key enzyme gene (*psoralen synthase*). Acta Hort.: 972:9-20. (ISHS), Belgium.
- v. Pandey, V., Sharma, G., Shankar, V. & Agrawal, Veena. 2013. *In vitro* bio-control of malarial and filarial vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.) and characterization of the larvicidal compounds. Acta Hort. 972:87-95. (ISHS), Belgium.
- vi. Agrawal, V.; Shankar V. & Agrawal, Veena. 2013. *In vitro* mass production of *Stevia rebaudiana* Bertoni (an antidiabetic endangered herb) and assessment of phytotoxicity of different heavy metals on stevioside synthesis. Acta Hort. 972; 121-133. (ISHS), Belgium.
- vii. Parast, M.,B.; Rasol,M.;Manafi,M. & Agrawal, Veena. 2013. Quantification of Psoralen in plant parts of *Psoralea corylifolia* grown in vitro and in vivo and enhancement of psoralen by organic elicitors. **Analyt. Chem. Lett.** 2:227-234.

- viii. Sharma, S.; Sharma, K.; & **Agrawal Veena**. 2013. Efficient Micropropagation Protocol and Field Establishment of Regenerants involving mycorrhiza Colonization in *Arnica montana* – An Endangered Medicinal Herb. **Acta Bot. Indica**. (In Press).
- ix. Gupta, N.; Panwar, A.; Kumar, R.; Sharma, S.K.; R. K. Sharma, R.K. & **Agrawal, V.** 2013. Green Approach for Synthesis of Silver Nanoparticles and Their Antibacterial Activity Against Multi Drug Resistant Human Pathogens. **Adv. Sci. Eng. & Med.** **5:355-361**.
- x. Sharma, G.; Kumar, K.; Sharma, A.; & **Agrawal Veena**. 2012. *In vitro* bioassay of *Artemisia annua* leaf extract and artemisinin against *Culex quinquefasciatus* and *Culex tritaeniorhynchus*. **J. Amer. Mosquito Control.** **28:317-319**. **Bio One (IF: 0.735)**.
- xi. Razaq, M.; Heikrujam, M.; Chetri, S.K. & **Agrawal Veena**. 2012 *In vitro* clonal propagation and genetic fidelity of the regenerants of *Spilanthes calva* DC. using RAPD and ISSR marker. **Physiol. Mol. Biol. Plant** **19:251-260**. Springer. (IF: 0.56)
- xii. Hellert, A.; Sharma, G.; Kumar, K.; & **Agrawal Veena**. 2012. Exploration of larvicidal activity of *Vernonia anthelmintica* (L.) wild seed crude extracts in different solvents against malaria (*Anopheles stephensi*) and dengue (*Aedes aegypti*) vectors. **Malaria Journal** **11**: (Suppl 1):P46 Springer, BioMed Central. (IF: 3.19).
- xiii. Shankar, V.; Veena, T.; Sharma, G.; & **Agrawal Veena**. 2012. Alleviation of heavy metal stress in *Spilanthes calva* L. (antimalarial herb) by exogenous application of glutathione. **In Vitro Cell Dev. Biol. Pl.** **48**: 113-119. (IF: 1.497).
- xiv. Shankar, V.; Sharma, G.; Kumar, M. & **Agrawal Veena**. 2012. Alleviation of salt induced phytotoxicity on *in vitro* germination and morphogenesis of four chickpea genotypes through benzyladenine. **Int. J. Pharma. BioSci.** **3**: 198-211. (IF: 0.47).
- xv. Parast, B.M.; Chetri S.K.; Sharma, K. & **Agrawal Veena**. 2011. *In vitro* isolation, elicitation of psoralen in callus cultures of *Psoralea corylifolia* and cloning of psoralen synthase gene. **Pl. Physiol. Biochem.** **49**: 1138-1146. Elsevier, U.K. (IF: 2.838).
- xvi. Pandey, V., Chopra, M. & **Agrawal, Veena**. 2011. *In vitro* isolation and characterization of biolarvicidal compounds from micropropagated plants of *Spilanthes acmella*. **Parasitol. Res.** **108**: 297-304. Springer, Germany. (IF: 2.149).
- xvii. Roy, R., **Agrawal, V.** and Gupta, S.C. 2011. Mannitol, PEG and NaCl induced polypeptide changes during *in vitro* culture of three tomato cultivars. **Biol. Plant.** **55**: 591-595. (IF: 1.974).
- xviii. Sharma, G.; Shankar, V.; Heikrujam, M. & **Agrwal Veena**. 2011. Evaluation of Genetic Fidelity Among Micropropagated Plants Raised Through Long-term Nodal Cultures of Elite Clone of *Artemisia annua* L. Using DNA-based RAPD Markers. **Phytomorphology.** **61** 135-141.
- xix. Subhan, V. & **Agrawal, V.** 2011. Efficient *in vitro* micropropagation of purple fleabane (*Vernonia anthelmintica* Willd.) a multipurpose under-exploited oil yielding herb. **Int. J. Pharma. BioSci.** **2**:231-241. (IF: 0.47).
- xx. Sharma,G; Shankar,V & **Agrawal, V.** 2011. An efficient micropropagation protocol of an elite clone EC 353508 of *Artemisia annua* L., an important antimalarial plant. **Int. J. Pharma. BioSci.** **2**:205-214. (IF: 0.47).

- xxi. Pandey, Vibha. & **Agrawal, Veena**. 2009. Efficient micropropagation protocol of *Spilanthes acmella* L. possessing strong antimalarial activity. **In Vitro Cell Dev. Biol. Pl.** **45**: 491-499. Springer, New York (**IF: 1.497**).
- xxii. Roy, R.; **Agrawal, V.** and Gupta, S.C. 2009. Comparison of drought-induced polypeptides and ion leakage in three tomato cultivars. **Biol. Plant.** **53**: 685-690. Springer. (**IF: 1.974**).
- xxiii. Sharma, K; **Agrawal, V**; Gupta, S; Kumar, R; Prasad, M. 2008. ISSR marker – assisted of selection male and female plants in a promising dioecious crop: jojoba (*Simmondsia chinensis*) **Pl. Biotech. Rep.** **2**: 239-243 Springer, Japan. (**IF. 1.187**).
- xxiv. **Agrawal, Veena** & Sardar, P. 2007. *In vitro* regeneration through somatic embryogenesis and organogenesis using cotyledons of *Cassia angustifolia* Vahl. **In Vitro Cell Dev. Biol. Pl.** **43**: 585-592. Springer, NY (**IF: 1.497**).
- xxv. **Agrawal, Veena**; Sharma, K.; Kumar, R. & Prashad, M. 2007. Identification of sex using RAPD marker in male and female plants of jojoba. **Pl. Biotech. Rep.** **1**: 207-210. Springer, Japan. (**IF.1.187**).
- xxvi. Pandey, V.; **Agrawal, Veena**; Raghavendra, K. and Dash A.P. 2007. Strong larvicidal activity of three species of *Spilanthes* (Akarkara) against malaria (*Anopheles stephensi* Liston, *Anopheles culicifacies*, species C) and filaria vector (*Culex quinquefasciatus* Say). **Parasitol. Res.** **102**: 171-174. Springer, Germany. (**IF: 2.149**).
- xxvii. **Agrawal, Veena** & Yadav, A. 2006. Efficient *in vitro* regeneration protocol in a drought tolerant variety BGD72 of *Cicer arietinum* L. **Indian J. Pl. Physiol.** **11**: 421-426 (Pub. IARI, New Delhi, India).
- xxviii. Roy, R., Purty R.S., **Agrawal, Veena** & Gupta, S.C. 2006. Transformation of tomato cultivar ‘Pusa Ruby’ with *bspA* gene from *Populus tremula* for drought tolerance. **Plant Cell Tiss. Org. Cult.** **84**: 55-67 Springer, Netherlands. (**IF: 3.09**)
- xxix. **Agrawal, Veena** & Sharma, K.D. 2006. Phytotoxic effect of Cu, Zn, Cd and Pb on *in vitro* regeneration and altered protein pattern of *Holarrhena antidysenterica* L. - an important multipurpose tree. **Biol. Plant.** **50**: 307-310. (Springer, Netherlands). (**IF: 1.974**).
- xxx. Roy, R., Purty R.S., **Agrawal, Veena** & Gupta, S.C. 2006. Promoterless gus gene shows leaky β -glucuronidase activity during transformation of tomato cultivar ‘Pusa Ruby’ with *bspA* gene for drought tolerance. **Biol. Plant.** **50**: 352-358. (Springer, Netherlands). (**IF: 1.974**).
- xxxi. **Agrawal, Veena** & Sardar, Pratima. 2006. *In vitro* propagation through leaflet and cotyledon derived callus in Senna (*Cassia angustifolia*) - a medicinally valuable drought resistant legume. **Biol. Plant.** **50**: 118-122. (**IF: 1.974**).
- xxxii. Purty, S.R., **Agrawal, Veena** & Gupta, S.C. 2005. Induction of a novel boiling stable protein in response to desiccation and ABA treatments in *Sesbania sesban* var. bicolor. **Biol. Plant.** **49**: 137-140. (**IF: 1.974**).
- xxxiii. Kumar, R., Sharma, K. & **Agrawal, Veena** 2005. *In vitro* clonal propagation of an important plant *Holarrhena*

- antidysenterica* (L.) Wall. through nodal explants from mature tree. **In Vitro Cell Dev. Biol. Pl. 41**: 137-144. Springer, New York. (IF: 1.974).
- xxxiv. **Agrawal, Veena & Subhan, Shahnaj** 2003. Rapid micropropagation through leaf lamina explants and protein analysis of differentiating and non-differentiating tissues in *Centella asiatica*. **Pl. Cell. Biotech. Mol. Biol. 4**: 83-90.
- xxxv. **Agrawal, Veena & Sardar, Pratima**. 2003. *In vitro* organogenesis and histomorphological investigations in Senna (*Cassia angustifolia*) - a medicinally valuable shrub. **Physiol. Mol. Biol. Pl. 9**: 1-10.
- xxxvi. Prakash, S., **Agrawal, Veena & Gupta, S.C.** 2003. Influence of some adjuvants on *in vitro* clonal propagation of male and female jojoba plants. **In Vitro Cell Dev. Biol. Pl. 39**: 217-222. Springer, New York. (IF: 1.497).
- xxxvii. **Agrawal, Veena; Prakash, S. & Gupta, S.C.** 2002. Effective protocol for *in vitro* shoot production through nodal explants of *Simmondsia chinensis*. **Biol. Plant. 45**: 449-453. Springer, Netherlands. (IF: 1.974).
- xxxviii. Kumar, Shashi; **Agrawal, Veena & Gupta, S.C.** 2002 Somatic embryogenesis in the woody legume *Calliandra tweedii*. **Pl. Cell Tiss. Organ Cult. 71**: 77-80. Springer, Netherlands. (IF: 3.09)
- xxxix. **Agrawal, Veena & Gupta, S.C.** 1991. *In vitro* plantlet development from explants of 25-year-old trees of *Populus x euramericana* a hybrid paper. **Pl. Sci. 78**: 99-105. Elsevier. (IF: 2.945).
- xl. **Gupta Veena; Lamba, L.C. & Goel, J. P.** 1985. Comparative study on the seed of two major pulses vis-à-vis their common adulterants. **Proc. Indian Acad. Sci. 95**: 283-289. (IF: 1.888).
- xli. Lamba, L. C. & **Gupta, Veena**. 1985. Fruit and Seed morphology in relation to adulteration. Govil, C.M. (Ed.), Trends in Plant Research, Meerut Univ., Meerut, pp. 244-251.
- xlii. **Gupta, Veena & Lamba, L.C.** 1985. Structure and development of seed in *Eschscholzia californica* Cham. Acta Bot. Indica: 240-245.
- xliii. **Gupta, Veena & Lamba, L.C.** 1984. Morphological and SEM investigation on the seed of *Rauvolfia serpentina* (L.) Benth. ex Kurz. J. Pl. Nature **1**: 54-59.
- xliv. Lamba, L.C. & **Gupta, Veena**. 1981a. SEM study of seed surface in *Argemone mexicana* L. and *Brassica campestris* var. Brown Toria. **Curr. Sci. 50**: 738-740. (IF: 0.897).
- xlv. Lamba, L.C. & **Gupta, Veena**, 1981b. Anatomy of circumscissile dehiscence in *Plantago ovata* Forsk. **Curr. Sci. 50**: 541-543. (IF: 0.897).
- xlvi. Lamba, L.C & **Gupta, Veena**. 1981c. Surface studies on seed coat of *Argemone mexicana* L. Sci. Cult. 74: 106-110. **Gupta, Veena & Lamba, L.C.** 1981. Sclereids in the endocarp of *Rauvolfia serpentina* (L) Benth. ex Kurz. **Proc. Indian Acad. Sci. 90**: 79-84. (IF: 1.888).
- xlvii. **Gupta, Veena & Lamba, L.C.** 1980. Structure and development of pericarp stomata in Papaveraceae. J. Sci. Res. **2**: 19-22.

xlvi. **Lamba, L.C. & Gupta, Veena 1981.** Surface studies on seed coat of *Argemone mexicana* (L.) Sci. Cult. **47:** 109-110.

3. a). Research papers published in Academic Journals other than Refereed/Peer Reviewed journals:

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- l. Roy, R; **Agrawal, V.** and Gupta, S.C. 2010. *In vitro* phenolics exudation in *Magnifera indica* L. Yearly Academic Journal (2009-10), Kalindi College, University of Delhi. pp. **86-92**.
- li. **Agrawal, Veena.** 1995. Transgenic Plants-Prospects and Risks. *Botanica V. 45*, pp. **54-58**.
- lii. Goyal, J.P.; **Gupta, Veena & Lamba, L.C.** 1986. Impact of air pollution on plants. *Science Reporter*, pp. **189-193**.

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International:

- I. Sharma, G., Kumar, K., Sarkar, M., Sharma, A., & **Agrawal, V.** 2011. "Strong Larvicidal Activity of *Artemisia annua* L. against Malaria, Filarial, Dengue and Japanese Encephalitis Vectors" Proc. XI Int. Symp. Vectors & Vector Borne Dis." organized by Reg. Med. Res. Centre Trib. (ICMR), Jabalpur, M.P., held from 15th-17th October, 2011.p 154.
- ii. **Agrawal Veena & Chetri S. K.** 2010. "*In vitro* strategies for improved production of bioactive compounds from medicinal plants involving microbes".Proc. Indo- German Workshop "Initiation and Intensification of Bilateral Cooperation" Org. by Amity Inst. Microb. Tech., Amity Univ. U.P.together with Deutsche Forschungs. (DFG), Germany w.e.f. March 22 – 24, 2011. p 43.
- III. Kumar, R., Kale, R.K. and **Agrawal, V.** 2010 .Transcriptional profiling and expression analysis of genes specifically expressed during early stage of male gametophyte development. Proc. Int. Conf. "Molec. Aspe.cts of plant Development" held in University of Economics, Audi Max, Vienna, **Austria w.e.f.** February 23-26, 2010.
- IV. **Agrawal, V.,** Parast B.M., Sharma, K. & Chetri, S.P.K. 2009. *In vitro* evaluation of an anticancerous compound psoralen from *Psoralea corylifolia* and molecular analysis of key enzyme gene (psoralen synthase). 2nd Int. Symp. Med. Nutraceut. Pl. held at AIIMS New Delhi from 25-27 Nov. 2009. pp. 67-68.
- V. **Agrawal, V. & Pandey, V.**2009. *In vitro* bio-control of malarial and filarial vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.) and characterization of the larvicidal compounds. 2nd Int. Symp. Med. Nutraceut. Pl. held at AIIMS, New Delhi from 25-27 Nov. 2009. pp. 101-102.
- VI. **Agrawal, V.** Shankar V. & Agrawal, V. 2009. *In vitro* mass production of *Stevia rebaudiana* Bertoni (an antidiabetic endangered herb) and assessment of phytotoxicity of different heavy metals on stevioside synthesis. 2nd Int. Symp. Med. Nutraceut. Pl. held at AIIMS, New Delhi from 25-27 Nov. 2009. p 57.
- VII. **Agrawal Veena & Sharma K.** 2009. "Studies on Sexual Dimorphism in *Simmondsia chinensis* (Link) Schneider: Differential Morphogenic Behaviour and DNA Fingerprinting". Int. Conf. Curr. Trends Biotech. Implic. Agri. Sardar Vallabhbbhai Patel Univ. Agri. Tech., Meerut (U.P) from Feb. 19-21, 2009. pp.76-77.

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- IX. Yadav A. & **Agrawal, Veena. 2009.** Optimization of regeneration protocol through somatic embryogenesis in some novel Chickpea Genotypes. Int. Conf. Curr. Trends Biotech. Implications Agri. at Sardar Vallabhbhai Patel Univ. Agri. Tech., Meerut (U.P) w.e.f. Feb. 19-21, 2009. p 94.
- X. Sharma, G. & **Agrawal Veena. 2009.** Evaluation of morphogenic diversity and development of efficient micropropagation protocols in three novel clones, EC-415012, EC-415013 and EC-353508 of *Artemisia annua* L Int. Conf. Curr. Trends Biotech. Implications Agri. at Sardar Vallabhbhai Patel Univ. Agri. Tech., Meerut (U.P) w.e.f. Feb. 19-21, 2009. pp. 116.
- XI. Shankar, V. & **Agrawal Veena. 2009.** *In Vitro* regeneration and *Agrobacterium* mediated genetic transformation in two elite Genotypes BG 372 and BG 256 of chickpea (*Cicer arietinum* L.) using drought tolerant DREB1A Gene and Stress-Inducible *rd29A* promoter. Int. Conf. Curr. Trends Biotech. Implications Agri. at Sardar Vallabhbhai Patel Univ. Agri. Tech., Meerut (U.P) w.e.f. Feb. 19-21, 2009. p 118.
- XII. Parast, B.M. & **Agrawal Veena. 2008.** Evaluation of an anticancerous compound, psoralen from in vivo and in vitro nodal explants of *Psoralea corylifolia* exposed to heavy metal stress. All India Bot. Conf. Int. Symp. Pl. Biol. Environ.: Changing Scenario from 17-19 December, 2008 Allahabad, U.P. Abstr. S3.21: p 99.
- XIII. Chetri, S. P. K. & **Agrawal Veena. 2008.** Micropropagation in an insecticidal plant *Tephrosia purpurea* Pers. And its bioefficacy against *Spodoptera litura* (Fabr.), a polyphagous pest. All India Bot. Conf. Int. Symp. Pl. Biol. Environ. Changing Scenario. w.e.f. 17-19 December, 2008 at Allahabad, U.P. Abstr. S3.22: p 99.
- XIV. Parast, B.M., Singh, S. & **Agrawal Veena 2008.** Impact of plant biotechnology on production of secondary metabolites: In vitro isolation and optimization of psoralen in *Psoralea corylifolia*. First Indo-Danish DU-SDU Seminar Emerg. Trends Interfac. Areas Chem. Biol. Environ. Sci. held at Conf. Centre, Univ. Delhi, Delhi w.e.f. March 17-18, 2008.
- XV. Pandey, V., **Agrawal, Veena 2008.** **In vitro development of herbal technology for biocontrol of malaria and filarial vectors.** First Indo-Danish DU-SDU Seminar Emerg. Trends Interfa. Areas Chem. Biol. Environ. Sci. at Conf. Centre, Univ. Delhi, Delhi w.e.f. March 17-18, 2008.
- XVI. Aggrawal, V. Pandey, V., **Agrawal, Veena. 2008.** Biotechnological aspects of *Stevia rebaudiana* Bertoni (an antidiabetic herb): *ex-situ* conservation and optimization of steviol glycosides production. First Indo-Danish DU-SDU Seminar Emerg. Trends Interfacial Areas Chem. Biol. Environ. Sci. at Conf. Centre, Univ. Delhi, Delhi w.e.f. March 17-18, 2008.
- XVII. Pandey, V., **Agrawal, Veena**, Raghavendra, K. & Dash, A.P. 2008. Strong larvicidal activity of three species of *Spilanthes* (Akarkara) against malaria *Anopheles stephensi* Liston, *Anopheles culicifacies*, species C) and filarial vector (*Culex quinquefasciatus* Say). IXth Int. Symp. Vectors Vector Borne Diseases. Int. Works. Insect. Resist. at Puri, Orrisa w.e.f. February 14-17, 2008. Abstr. No. P1.60 p 135.
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- XXIII. **Agrawal, Veena & Yadav, Anuradha 2003. Effective *in vitro* regeneration protocol through seed and seedling explants for genetic transformation in a drought tolerant variety (BGD72) of chickpea (*Cicer arietinum*).** Int. Conf. Trends Cell. Mol. Biol. New Delhi, (March 6-8, 2003).
- XXIV. **Agrawal, Veena, Sharma, Kuldeep & Sardar, Pratima Rani 2003. Recurrent somatic embryo production through long term cultured agametophytic tissue of jojoba.** Int. Conf. Trends Cell. Mol. Biol. JNU, New Delhi, March 6-8, 2003.
- XXV. **Agrawal, Veena 2002. Recurrent somatic embryo production through long term cultured agametophytic tissue of jojoba.** Proc. 10th IAPTC&B Cong. Pl. Biotech. Orlando, Florida, USA. (June 23-28, 2002).
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- XXXVII. **Agrawal, Veena & Gupta, S.C. 1990a. *In vitro* regeneration of plants from old trees of a hybrid poplar which does not flower in Delhi.** XI Int. Symp. 'Embryo. Seed Reprod.', Leningrad, USSR, p 5.
- XXXVIII. **Agrawal, Veena & Gupta, S.C. 1990b. *In vitro* organogenesis and somatic embryogenesis in old trees of *Populus x euramericana*.** Proc. VII Int. Cong. Pl. Tiss. Cell Cult. Amsterdam, The Netherlands, p 290.
- XXXIX. **Gupta, S.C. & Agrawal, Veena 1989. *In vitro* multiplication of woody plants and reforestation.** Proc. Int. Symp. Appl. Biotech. Methods Recent Accomplishments Econ. Value Asia, (Bangkok).
- XL. **Gupta, S.C. & Agrawal, Veena. 1988. *In vitro* micropropagation of woody taxa and plant productivity.** Proc. First Regional Conf. Assoc. SAARC Countries the 'Role Pl. Physiol. & Biotech. Crop Product.' Kathmandu, Nepal. Abstr. No. G 42.

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- liii. **Agrawal, V., Parast, M. & Chetri, S. K. 2013. "Marked enhancement of sennosides (anticancerous compound) in *Cassia angustifolia* Vahl. leaf callus exposed to different elicitors and development of efficient regeneration protocol"** at the XXXIV Annual meeting of Plant Tissue Culture Association (India) and National Symposium on Plant Tissue & Biotechnology for food and Nutritional Security w.e.f. March 11-13, 2013. p 61.
- liv. **Sharma, G. Kapoor, H. & Agrawal, V. 2013. "Selection of elite genotype of *Artemisia annua*, its micropropagation, evaluation of genetic fidelity and marked enhancement in the artemisinin content through co-cultivation with *Piriformaspora indica*"** at the XXXIV Annual meeting of Plant Tissue Culture Association (India) and National Symposium on Plant Tissue & Biotechnology for food and Nutritional Security w.e.f. March 11-13, 2013. p 103.
- lv. **Agrawal, V., Chetri, S. K. , Gaurav Sharma, Gupta, S. 2013. "*In vitro* strategies for enhanced production of bioactive compounds in medicinal plants"** during the UGC-SAP-DRS-I Sponsored National Seminar on Medicinal Plants and their characterization held at Jamia Hamdard University, Delhi- 62 w.e.f. February 26-27, 2013.
- lvi. **Agrawal, V., Razaq, M., Pandey, V. & Sharma, G. 2012. "Biodiversity, *in vitro* conservation and larvicidal activity of some medicinal herbs against mosquito vectors of serious human diseases"** in the **National Seminar on Medicinal Plants Research in India**, organized by Department of Botany, Facul. Sci. Jamia Hamdard, New Delhi from March 16-17, 2012. p.15.

- lvii. **Agrawal, V., Parast, M. & Chetri, S. K. 2012. "In vitro evaluation and upregulation of antitumor compounds from *Psoralea corylifolia* and cloning of psoralen biosynthetic pathway gene" in the National Seminar on Current Trends in Secondary Plant Metabolite Research** organized by Department of Biotechnology, Faculty of Science Jamia Hamdard, New Delhi from March 19-20, 2012.
- lviii. **Razaq, M., Heikrujam, M., Chetri, S. K. & Agrawal, V. 2012. "RAPD, ISSR and SRAP as potential markers for assessment of genetic fidelity of micropropagated plants of *Spilanthes calva* L. - multipurpose herb" at the Natal. Symp. "Impact of Plant Tissue Culture on Advances in Plant Biology" & XXXIII Ann. Meet PTCA (India) at Loyola Centre for Research and Development, Ahmedabad, held from Jan 19-21, 2012. p 130.**
- lix. **Agrawal, V., Parast, B. M. & Chetri, S. K. 2012. "Evaluation, isolation and elicitation of psoralen anticancerous bioactive compound of *Psoralea corylifolia* and cloning of *psoralen synthase* gene" at the Natal. Symp. "Impact of Plant Tissue Culture on Advances in Plant Biology" & XXXIII Ann. Meet Pl. Tissue Culture Association (India) at Loyola Centre for Research and Development, Ahmedabad from Jan 19-21, 2012. p 78.**
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- lxi. **Razaq, M., Pandey, V. & Agrawal, V. 2011. "Assessment of biodiversity and ex-situ conservation of three *Spilanthes* Spp." at Natal. Conf. "Biodivers. Changing Patterns Conserv. Strate." Department of Botany, DDU Gorakhpur University, Gorakhpur from 26-28 Nov., 2011.p 168.**
- lxii. **Agrawal, V., Pandey, V. & Sharma, G. 2011. "In vitro screening of bio-larvicidal compounds against malaria and filaria vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.) and their isolation from medicinal plants" at the Natal Symp. "Rec. Advan. Plant Tissue Cult. Biotechnol. Research. India" & XXXII Annual meet of PTCA (India) M.N. Institute of Appl. Sci., Bikaner, Rajasthan, from Feb. 4-6, 2011. p 43.**
- lxiii. **Heikrujam, M & Agrawal, Veena. 2011. "In vitro recurrent somatic embryo production in *Calliandra tweedii*, a model system amongst woody legumes. National Symposium on "Rec. Advanc. Plant Tissue Culture Biotechnol. Research. India" & XXXII Annual meet PTCA (India) M.N. Institute of Appl. Sci. Bikaner, Rajasthan, from Feb. 4-6, 2011. p 93.**
- lxiv. **Agrawal, V., Chetri, S. K. & Sharma, K. 2010. "Biodiversity and in vitro selection of high psoralen yielding clone of *Psoralea corylifolia* and its mass propagation through tissue culture" in the Natal. Conf. Biodiv. Medicinal Aromatic Pl.: Collection, Charact. Utiliz. at Anand, Gujarat w.e.f. Nov. 24-25, 2010. pp. 33-34.**
- lxv. **Agrawal V., Parast, B.M., Sharma, K. & Chetri, S. P. K. & 2010. "In vitro optimization of psoralen, an anticancerous compound from callus cultures of *Psoralea corylifolia* using various elicitors and isolation of key enzyme gene (psoralen synthase) XXXI Meeting of PTCA(India) & Natal. Symp. Plant Cell Tiss. Organ Cult. The Present Scenario from . 3-5 March 2010, Univ. Calcutta, Kolkata. p 100.**
- lxvi. **Shankar, V. and Agrawal, V. 2008. Impact of NaCl salt stress and its reversal by BA on germination and morphogenesis of four genotypes viz, BG-372, 1105, 2019 and 2024 of chickpea (*Cicer arietinum* L.). Golden Jubilee Conf. Challenges Emerging Strategies Improving Pl. Productivity held in IARI, Delhi, from Nov.**

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- lxvii. Kumar, S. and **Agrawal, V.** 2008. Study of heavy metal stress on in vitro regeneration in a medicinally valuable woody shrub *Cassia angustifolia* Vahl. **Golden Jubilee Conf. Challenges Emerging Strategies Improving Pl. Productivity** held in IARI, Delhi, from Nov. 12-14, 2008.
- lxviii. Parast, B.M., Chetri, S. P. K. & **Agrawal Veena.** 2008. **Impact of heavy metal stress on in vitro propagation and improvement in psoralen content in *Psoralea corylifolia*.** Natal. Symp. Frontiers Biocomplex. Biodiv. Pl. (March 14-15, 2008) held at North-Eastern Hill Univ., Shillong, pp. 21-22.
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- lxx. Pandey, V. & **Agrawal, Veena.** 2008. Biotechnological aspects of Akarkara (*Spilanthes* spp.): Biodiversity, Conservation and Evaluation of larvicidal activity against malaria and filaria vectors at the 29th Ann. Meeting Pl. Tiss. Cult. Assoc. (India) Natal. Symp. "Pl. Biotech. Conserv., Character. Crop Improv." w.e.f. February 8-10, 2008 held at Udaipur, Rajasthan.
- lxxi. Sharma, G., Pandey, V. & **Agrawal, Veena.** 2008 Optimization of *in vitro* regeneration protocols and evaluation of artemisinin content in three clones (EC-415012, EC-415013 and EC-353508) of *Artemisia annua* at the 29th Ann. Meeting of Pl. Tiss. Culture Asso. (India) Natal. Symp. "Pl. Biotech. Conserv., Character. Crop Improv." (February 8-10, 2008) held at Udaipur, Rajasthan.
- lxxii. Chetri, S. P. K. & **Agrawal Veena.** 2008. Micropropagation of a desert medicinal legume, *Tephrosia purpurea* (Pers.) and evaluation of its bioefficacy against *Spodoptera litura* (Fabr), a polyphagous pest at the 29th Ann. Meeting Pl. Tiss. Cult. Assoc. (India) Natal. Symp. "Pl. Biotech. Conserv., Character. Crop Improv." (February 8-10, 2008) held at Udaipur.
- lxxiii. **Agrawal, Veena,** Sardar P.R. & Kumar S. 2008. Micropropagation and evaluation of heavy metal stress induced changes in a medicinal cash crop *Cassia angustifolia* Vahl at 29th Ann. Meeting Pl. Tissue Culture Assoc. (India) Natal. Symp. "Pl. Biotech. Conserv., Character. Crop Improv." (February 8-10, 2008) held at Udaipur.
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- lxxv. Kumar, S. & **Agrawal, Veena.** 2007. Phytotoxic effect of As, Cd, Cu & Zn on in vitro morphogenic responses in *Cassia angustifolia* Vahl. Natal. Sem. Pl. Physiol., Physiologic. Mol. Approach. Increasing Yield Quality Agri., Horticult. Med. Pl. Changing Environ. (Nov. 29-30 & December 1, 2007) held at Dapoli, Maharashtra, p 157.
- lxxvi. Sharma, G., Pandey, V. & **Agrawal, Veena** 2007. Efficient micropropagation protocol for three clones EC-415012, EC-415013 and EC-353508) of *Artemisia annua* for the enhancement of artemisinin content. Natal. Sem. Pl. Physiol., Physiologic. Mol. Approach. Increasing Yield Quality Agri., Horticult. Med. Pl. Changing Environ. (Nov. 29-30 & December 1, 2007) held at Dapoli, Maharashtra, p 158.

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4. Other publications (Edited works, Book reviews, Festschrift volumes, etc.)

Conference Organization/ Presentations (in the last three years)

Presented Papers In 50 National and International Conferences. Some are given hereunder:

- **Delivered invited lecture entitled “Marked enhancement of sennosides (anticancerous compound) in *Cassia angustifolia* Vahl. leaf callus exposed to different elicitors and development of efficient regeneration protocol”** at the XXXIV Annual meeting of Plant Tissue Culture Association (India) and National Symposium on Plant Tissue & Biotechnology for food and Nutritional Security w.e.f. March 11-13, 2013.
- **Delivered invited lecture entitled “Plant Responses to Abiotic stress and their mechanism of tolerance involving antioxidants and gene transfer”** at Innovation Center on Environmental Biotechnology, M.D. University, Rohtak (Haryana) on March 6, 2013.
- **Delivered invited lecture entitled “*In vitro* strategies for enhanced production of bioactive compounds in medicinal plants”** during the UGC-SAP-DRS-I Sponsored National Seminar on Medicinal Plants and their characterization held at Jamia Hamdard University, Delhi- 62 w.e.f. February 26-27, 2013.
- **Delivered invited lecture entitled “Paradigms In Medicinal Plant Biotechnology: Germplasm Conservation, Isolation And Up-Regulation Of Some Important Biomolecules”** in the International Conference entitled “Biotechnology: A Rendezvous with Basic Sciences for Global Prosperity (BTBS-2012)” held at National Academic of Agricultural Sciences (NAAS), New Delhi w.e.f. December 26-27, 2012.
- **Delivered invited lecture on “*In vitro* evaluation and upregulation of antitumorous compounds from *Psoralea corylifolia* and cloning of psoralen biosynthetic pathway gene” in the National Seminar on Current Trends in Secondary Plant Metabolite Research”** organized by Department of Biotechnology, Faculty of Science Jamia Hamdard, New Delhi, held from March 19-20, 2012.
- **Delivered invited lecture on “Biodiversity, *in vitro* conservation and larvicidal activity of some medicinal herbs against mosquito vectors of serious human diseases” in the National Seminar on Medicinal Plants Research in India”** organized by Department of Botany, Faculty of Science, Jamia Hamdard, New Delhi, held from March 16-17, 2012.
- **Delivered invited lecture on “Evaluation, isolation and elicitation of psoralen anticancerous bioactive compound of *Psoralea corylifolia* and cloning of psoralen synthase gene”** at the Natal. Symp. “Impact of Plant Tissue Culture on Advances in Plant Biology” & XXXIII Ann. Meet Pl. Tissue Culture Association (India) at Loyola Centre for Research and Development, Ahmedabad, held from Jan 19-21, 2012.
- **Presented paper entitled, “RAPD, ISSR and SRAP as potential markers for assessment of genetic fidelity of micropropagated plants of *Spilanthes calva* L. - multipurpose herb”** at the Natal. Symp. “Impact of Plant Tissue Culture on Advances in Plant Biology” & XXXIII Ann. Meet PTCA (India) at Loyola Centre for Research and Development, Ahmedabad, held from Jan 19-21, 2012.
- **Delivered invited lecture on “*In vitro* strategies for improved production of bioactive compounds from medicinal plants involving microbes”** at the Indo - German Workshop in the frame of the program "Initiation and Intensification of Bilateral Cooperation" Organized by Amity Institute of Microbial Technology, Amity University Uttar Pradesh Together with Deutsche Forschungsgemeinschaft (DFG), Germany, held from- March 22 – 24, 2011.
- **Delivered Invited lecture on the topic entitled “*In vitro* screening of bio-larvicidal compounds against malaria and filaria vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.) and their isolation from medicinal plants”** at the Natal. Symp. “Recent advance. Pl. Tiss. Cult. Biotech.Res. india”& XXXII Ann. Meet Pl. Tissue Culture Association (India). M.N. Institute Applied Sciences, Bikaner, Rajasthan, held from February 4-6, 2011.

- Presented research Poster entitled “Strong Larvicidal Activity of *Artemisia annua* L. against Malaria, Filarial, Dengue and Japanese Encephalitis Vectors” in the XI International Symposium on Vectors & Vector Borne Diseases” organized by Regional Medical Research Centre for Tribals (Indian Council of Medical Research), Jabalpur, M.P., held from 15th -17th October 2011.
- Delivered invited lecture on “Role of bacteria in the genetically modified crops” in the Indo-Italian Workshop on Bacteria & Fungi for Environmental Sustainability held at Amity Institute of Microbial Technology, Amity University in collaboration with Embassy of Italy, New Delhi, held from Nov. 29-30, 2010.
- Presented paper entitled, “Biodiversity and *in vitro* selection of high psoralen yielding clone of *Psoralea corylifolia* and its mass propagation through tissue culture” in the National Conference on Biodiversity of Medicinal and Aromatic plants: Collection, Characterization and Utilization at Anand, Gujarat, held from Nov. 24-25, 2010.
- Delivered invited lecture on “Morphogenic and molecular characterization of male and female plants of jobjoba (*Simmondsia chinensis*): a multipurpose oil yielding crop” in the National Conference on Plant Physiology: Physiological and Molecular Approaches for Crop improvement under Changing Environment, Banaras Hindu University, Varanasi (Uttar Pradesh), held from Nov. 25-27, 2010.
- Delivered invited lecturer on “Emerging Trends in Medicinal Plant Research: Bioprospecting, In Vitro Conservation and Biosynthesis of Biomolecules” XXXI Meeting of Plant Tissue Culture Association (India) & National Symposium on Plant Cell Tissue and Organ Culture: The Present Scenario held from 3-5 March 2010, University of Calcutta, Kolkata.
- Delivered lead lecture entitled, “Bioprospecting of Medicinal plants: Conservation, isolation and biosynthesis of bioactive compounds” in the 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi, held from 25-27 Nov. 2009.
- Presented paper entitled, “*In vitro* evaluation of an anticancerous compound psoralen from *Psoralea corylifolia* and molecular analysis of key enzyme gene (psoralen synthase)”. 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi, held from 25-27 Nov. 2009.
- Presented paper entitled, “*In vitro* bio-control of malarial and filarial vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.)” and characterization of the larvicidal compounds. 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi, held from 25-27 Nov. 2009.
- Presented paper entitled, “*In vitro* mass production of *Stevia rebaudiana* Bertoni (an antidiabetic endangered herb) and assessment of phytotoxicity of different heavy metals on stevioside synthesis.” 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi, held from 25-27 Nov. 2009.
- Participated and held discussion in the Workshop on Study of biofuels in India organized by PriceWater House Coopers at Hyatt Regency, Delhi from March 18-19, 2009.
- Delivered invited lecture series on “Studies on Sexual Dimorphism in *Simmondsia chinensis* (Link) Schneider: Differential Morphogenic Behaviour and DNA Fingerprinting”. during Int. Conf. Curr. Trends Biotech. Implications Agri. Sardar Vallabhbhai Patel Univ. Agri. Tech., Meerut (U.P), held from Feb. 19-21, 2009.
- Participated and Presented research poster in the Int. Conf. on First Indo-Danish DU-SDU Seminar on “Emerging Trends in Interfacial Areas of Chemical, Biological and Environmental Sciences” organized by Dept. Chem., Univ. Delhi and Dept. Physics and Chemistry, Univ. Southern Denmark held at Delhi (March 17-18, 2008) and presented two research posters.
- Presented paper on “Evaluation of an anticancerous compound, psoralen from *in vivo* and *in vitro* nodal explants of *Psoralea corylifolia* exposed to heavy metal stress.” during All India Bot. Conf. Int. Symp. Pl. Biol.

Environ.: Changing Scenario, from 17-19 December, 2008 at Allahabad, Uttar Pradesh. Abstr. S3.21: p 99.

- Participated and presented research poster in the IXth Int. Symp. Vectors Vector Borne Diseases Int. Workshop Insecticide Resistance. (February 14-17, 2008) held at Puri, Orissa and presented a poster.
- Participated in the Golden Jubilee Conf. “Challenges and Emerging Strategies for Improving Plant Productivity” and presented two posters viz. **“Impact of NaCl salt stress and its reversal by BA on germination and morphogenesis of four genotypes viz, BG-372, 1105, 2019 and 2024 of chickpea (*Cicer arietinum* L.)”** and **“Study of heavy metal stress on in vitro regeneration in a medicinally valuable woody shrub *Cassia angustifolia* Vahl”** held in IARI, Delhi, from Nov. 12-14, 2008.
- Participated as a member Organizing Committee of Natl. Conf. Biodiv. Related Int. Conventions and presented a poster entitled **“*In vitro* conservation of *Arnica montana* – An endangered medicinal herb of Asteraceae”** on Delhi Univ. Bot. Soc., (March 8-10, 2006).
- Attended and held discussion during Int. Conf. Nanotech. Biotech. held at Hotel Intercontinental, Barakhamba Lane, New Delhi (March 27-29, 2006).
- Attended and participated in discussion during Int. Conf. Indo-US Sci. Tech. Forum Symp. IP Management in Public Private Partnership on National Institutes of Health, TIFAC held at Hotel Le Meridien, New Delhi. (February 17, 2006).
- Participated as a **Member of Organising Committee Int. Conf. Appl. Phycol.** “Algae in Biotech. Environ.” held at Delhi Univ., Delhi (February 14-15, 2006).
- Participated as a **member of Organizing Committee of Second INDO-US** workshop on Green Chemistry held at Hotel Connaught, New Delhi (January 7-9, 2006).
- Participated in the Seminar on New Technology HPLC Columns conducted by Merck at Hotel Ramada Plaza, Delhi on March 17, 2009.
- Participated in the Natl. Conf. Wetlands, Sci. Soc.- An assessment of their integration organized by Delhi Univ. Bot. Soc. (December 11-13, 2007).
- Attended Natal. Seminar on “Relevance of Botany in the Conservation and Improvement of Plants” organized by Delhi Univ. Bot. Soc. (February 8-9, 2006).
- Attended Conf. “New Developments in Rapeseed- Mustard organized by Mustard Research and Promotion Consortium (MRPC)” at New Delhi (January 21, 2006).
- **Delivered invited lecture during Int. Conf. Trends Cellular Mol. Biol.**, held at JNU, New Delhi, March 6, 2003.
- **Delivered Invited lecture on “Differential hormonal requirements in jojoba” during IX Int. Cong. Pl. Tiss. Cult.**, held at Israel, June 19-23, 1998. Participated in the Natal. Symp. Emerging Trends Pl. Tiss. Cult. Assoc., held at Hyderabad (January 29-31, 1997) and presented a paper on “High Efficiency *in vitro* clonal propagation of female jojoba plants”.
- Attended Tenth Blackett Memorial Lecture on the Regulation of Gene Expression delivered by Sir Aaron Klug at Delhi (Dec. 30, 1996).
- Attended 16th Int. Cong. Biochem. Mol. Biol. held at New Delhi (September 19-22, 1994).
- Attended (Dept. Atomic Energy) sponsored Symp. Photosynthesis and Pl. Mol. Biol. held at New Delhi (March 17-19, 1993).
- Attended Symp. **“Gene structure and Expression”** held at Bangalore (December 14-15, 1991).

- Attended Natal. Symp. “**Role of Plant Biochemistry and Biotechnology in Crop Productivity**”, held at New Delhi (November 18-19, 1991).
- Participated in a two day workshop held at Yamuna Nagar (January 11-12, 1998) and attended all the four sessions on Biochemistry, Allergy & Applied Immunology, Biotechnology & Molecular Biology.
- Selected and Participated in the DBT sponsored training programme on “**Cloning, Characterization and Sequencing of Plant Genes**” held at Centre of Plant Molecular Biology, School of Life Sciences, Jawahar Lal Nehru Univ., (Dec. 1994) New Delhi and learned technique for isolation of plasmid DNA, RNA, Plant DNA, electrophoresis, *Agrobacterium* mediated gene transfer and assay for transgene expression.
- Selected and Participated in DBT sponsored workshop-cum-symposium on “**Molecular immunology, gene structure and expressions**” held at **Indian Institute of Science, Bangalore** (Dec. 1991) and gained experience in handling modern tools of biochemistry e.g. Slab Gel Electrophoresis for protein/ DNA separation, Southern, Northern, Western, blotting and ELISA.
- Participated and learned techniques during the workshop on Plant Genetic Transformation held at Delhi University in the Laboratory of Professor S. C. Gupta conducted by Professor S. C. Minocha, Univ. of New Hampshire, Durham, USA during 1990-91.

List against each head(If applicable)

- **Organization of a Conference:**

INTERNATIONAL

- **Participated as Member Organising Committee** in the **International Conference entitled “Biotechnology: A Rendezvous with Basic Sciences for Global Prosperity (BTBS-2012)”** held at National Academic of Agricultural Sciences (NAAS), New Delhi *w.e.f.* December 26-27, 2012.
- **Participated as Member, Organizing Committee** in the **International Conference on Environment and Human Health organized by National Environmental Science Academy (NESA), India**, held at INSA, New Delhi *w.e.f.* 28-29 November, 2012.
- **Participated as Member, Organizing committee** in the **International Congress on Chronobiology** organized by Dept. of Zoology, held at Dehi University *w.e.f.* October 3-7, 2012.
- **Member Advisory Board of National Conference on Genomics and Genetic Engineering strategy for Crop Improvement**, held on Feb. 2012 at Peryar Univ. Tamilnadu.
- **Member Organising Committee of the “3rd International Conference on Current Developments in Atomic, Molecular, Optical & Nano Physics with Applications”** Organized by Department of Physics & Astrophysics, Univ. of Delhi, Co-Sponsored by Laser Science and Technology Centre (LAXTEC), DRDO, in Jan. 2011, Delhi.
- Participated as **Member Organising Committee in the International Workshop on Sustaina. Water Quality** held at Hotel Maidens, 7 Sham Nath Marg, Delhi Sponsor. by The Green Chemistry Network Centre, Department of Chemistry, University of Delhi *w.e.f.* **Jan. 17-20, 2011.**
- Participated as **Member Organising Committee in the Workshop on Green Chemistry Education: Necessity of a sustainable Future** held at Dept. Chemistry, Univ. Delhi and Sponsored by **Royal Society of Chemistry, London on Nov. 20, 2010.**
- Participated as **Member of Editorial and Organizing Committee of 2nd Int. Symp. Med. Nutraceutical Pl.** held at AIIMS (All India Institute of Medical Sciences), New Delhi *w.e.f.* 25-27 Nov. 2009.
- Participated as Member of Organizing Committee Int. Conf. Indo-US S&T Workshop Green Chem. held in New

Delhi (January 7-9, 2008). **Member Organising Committee Int. Conf. Indo-US S&T Workshop Green Chem. held in New Delhi (January 7-9, 2008).**

- **Member Organising Committee Int. Conf. Appl. Phycol. “Algae in Biotech. Environ.”** held at Delhi Univ., Delhi (February 14-15, 2006).
- **Member Organizing Committee of Second INDO-US** workshop on Green Chemistry held at Hotel Connaught, New Delhi (January 7-9, 2006).
- **Member Organizing Committee of Natl. Conf. Biodiv.** Related Int. Conventions organized by Delhi Univ. Bot. Soc., (March 8-10, 2006).

Participation as Paper/Poster Presenter

Chaired the Session and Delivered/Invited Lectures:

- **Delivered invited lecture on “*In vitro* evaluation and upregulation of antitumor compounds from *Psoralea corylifolia* and cloning of psoralen biosynthetic pathway gene” in the National Seminar on Current Trends in Secondary Plant Metabolite Research** organized by Department of Biotechnology, Faculty of Science Jamia Hamdard, New Delhi, held from March 19-20, 2012.
- **Delivered invited lecture on “Biodiversity, *in vitro* conservation and larvicidal activity of some medicinal herbs against mosquito vectors of serious human diseases” in the National Seminar on Medicinal Plants Research in India** organized by Department of Botany, Faculty of Science, Jamia Hamdard, New Delhi, held from March 16-17, 2012.
- **Delivered invited lecture on “Evaluation, isolation and elicitation of psoralen anticancerous bioactive compound of *Psoralea corylifolia* and cloning of *psoralen synthase* gene”** at the Natal. Symp. “Impact of Plant Tissue Culture on Advances in Plant Biology” & XXXIII Ann. Meet Pl. Tissue Culture Association (India) at Loyola Centre for Research and Development, Ahmedabad, held from Jan 19-21, 2012.
- **Presented paper entitled, “RAPD, ISSR and SRAP as potential markers for assessment of genetic fidelity of micropropagated plants of *Spilanthes calva* L. - multipurpose herb”** at the Natal. Symp. “Impact of Plant Tissue Culture on Advances in Plant Biology” & XXXIII Ann. Meet Pl. Tissue Culture Association (India) at Loyola Centre for Research and Development, Ahmedabad, held from Jan 19-21, 2012.
- **Delivered invited lecture on “*In vitro* strategies for improved production of bioactive compounds from medicinal plants involving microbes”** at the Indo - German Workshop in the frame of the program "Initiation and Intensification of Bilateral Cooperation" Organized by Amity Institute of Microbial Technology, Amity University Uttar Pradesh Together with Deutsche Forschungsgemeinschaft (DFG), Germany w.e.f. March 22 – 24, 2011.
- **Delivered Invited lecture on the topic entitled “*In vitro* screening of bio-larvicidal compounds against malaria and filaria vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.) and their isolation from medicinal plants”** at the Natal. Symp. “Recent advance. Pl. Tiss. Cult. Biotech. Res. India” & XXXII An. Meet Pl. Tissue Culture Association (India). M.N. Institute Applied Sciences, Bikaner, Rajasthan, w.e.f. February 4-6, 2011.
- **Chaired the technical Session (Biodiversity and Conservation of Plants) and delivered invited lecture on “Morphogenic and molecular characterization of male and female plants of jojoba (*Simmondsia chinensis*): a multipurpose oil yielding crop”** in the National Conference on Plant Physiology: Physiological and Molecular Approaches for Crop improvement under Changing Environment, Banaras Hindu University, Varanasi (Uttar Pradesh). w.e.f. Nov. 25-27, 2010.
- **Delivered invited lecture on “Role of bacteria in the genetically modified crops” in the Indo-Italian Workshop**

on Bacteria & Fungi for Environmental Sustainability held at Amity Institute of Microbial Technology, Amity University in collaboration with Embassy of Italy, New Delhi. w.e.f. Nov. 29-30, 2010.

- **Delivered invited Lecture on “Biodiversity and *in vitro* selection of high psoralen yielding clone of *Psoralea corylifolia* and its mass propagation through tissue culture”** in the National Conference on Biodiversity of Medicinal and Aromatic plants: Collection, Characterization and Utilization at Anand, Gujarat w.e.f. Nov. 24-25, 2010.
- **Delivered invited Lecture on “Emerging Trends in Medicinal Plant Research: Bioprospecting, In Vitro Conservation and Biosynthesis of Biomolecules”** XXXI Meeting of Plant Tissue Culture Association (India) & National Symposium on Plant Cell Tissue and Organ Culture: The Present Scenario 3-5 March 2010, University of Calcutta, Kolkata.
- **Delivered lead lecture entitled “Bioprospecting of Medicinal plants: Conservation, isolation and biosynthesis of bioactive compounds”** in the 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi w.e.f. 25-27 Nov. 2009.
- **Delivered invited Lecture on “In vitro evaluation of an anticancerous compound psoralen from *Psoralea corylifolia* and molecular analysis of key enzyme gene (psoralen synthase). 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi w.e.f. 25-27 Nov. 2009.**
- **Agrawal, V. & Pandey, V. 2009. *In vitro* bio-control of malarial and filarial vectors using crude extract and isolated fractions of medicinal herbs (*Spilanthes* spp.) and characterization of the larvicidal compounds. 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi w.e.f. 25-27 Nov. 2009.**
- **Shankar V., Agrawal, V. & Agrawal, V. 2009. *In vitro* mass production of *Stevia rebaudiana* Bertoni (an antidiabetic endangered herb) and assessment of phytotoxicity of different heavy metals on stevioside synthesis. 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi w.e.f. 25-27 Nov. 2009.**
- **Delivered Inaugural Lecture entitled, “GM Crops: Current Scenario, Prospects & Risks”** at Hansraj College, Univ. Delhi on 17th September, 2009.
- **Delivered invited lead lecture entitled, “Studies on Sexual Dimorphism in *Simmondsia chinensis* (Link) Schneider: Differential Morphogenic Behaviour and DNA Fingerprinting”** (Through invited lecture series) in the Int. Conf. Curr. Trends Biotech. Implications Agri. at Sardar Vallabhbhai Patel Univ. Agri. Tech. Meerut (U.P) w.e.f. Feb. 19-21, 2009.
- **Parast, B.M. & Agrawal Veena. 2008. Evaluation of an anticancerous compound, psoralen from *in vivo* and *in vitro* nodal explants of *Psoralea corylifolia* exposed to heavy metal stress. All India Bot. Conf. Int. Symp. Pl. Biol. Environ.: Changing Scenario. w.e.f. 17-19 December, 2008 at Allahabad, Uttar Pradesh. Abstr. S3.21: p 99.**

Research Projects (Major Grants/Research Collaboration) 8 (5+3)

Completed five Major Research Projects : Four were sanctioned by the UGC, New Delhi and one by NOVOD (ICAR). One ICMR project is being operated in collaboration with National Centre for Communicable Diseases, Delhi and ACBR, Delhi University.

Handled: Five (Completed); Three are in operation:

- i. Worked as Principal Investigator of a Major UGC Research Project entitled, “*In vitro* clonal propagation of Male

and Female *Simmondsia chinensis* Elite Plants.'(From October, 1994-1998).

- ii. Worked as Principal Investigator of Major UGC Research Project entitled, "***In vitro* Morphogenic studies in jojoba (*Simmondsia chinensis*): Mass Propagation and Somatic Embryogenesis**" From Oct. 1998 to Oct. 18, 2001.
- iii. Worked as Principal Investigator of UGC's Major Research Project entitled "**Micropropagation and Evaluation of Genetic fidelity of off-springs of two important medicinal plants *Centella asiatica* and *Holarrhena antidysenterica***". June (June 2002-2005).
- iv. Worked as Principal Investigator of UGC's Major Research Project entitled "**Biodiversity and *in vitro* selection of *Psoralea corylifolia* plants yielding high content of anticancerous bioactive compounds genistein, diadzein and psoralen**". (April 2007-September, 2010).Funds availed:.
- v. Worked as Principal Investigator of a National Oilseeds and Vegetable Oils Development (NOVOD) Board Major Research Project entitled "**Development of Tissue culture protocol for mass propagation using elite *Jatropha* line & their biochemical evaluation**" from 2008-2012.

In Operation:

- i. Principal Investigator of DST Major Research Project entitled "**Marker Assisted Selection of Male and Female Plants of *Simmondsia chinensis* (Link) Schneider (Jojoba) – A multipurpose dioecious crop**" for three years w.e.f. 2013-2016.
- ii. Principal Investigator of ICMR Project in collaboration with Malaria Research Centre on the topic entitled "**Survey of North Indian Medicinal Plants for their larvicidal activity against malaria and filarial vectors**" for three years w.e.f. 2010-2013.
- iii. Principal Investigator of UGC Major Research Project entitled, "***In vitro* evaluation, isolation and up regulation of anticancerous bioactive compounds from *Cassia Angustifolia* (Senna), through elicitors and their bioefficacy against human cancer cell lines**" for three years w.e.f. 2013-2016.

Awards and Distinctions

- **Editor, Phytomorphology:** An International Journal of Plant Sciences, from July 2012, onwards.
- **Elected Member of Plant Tissue Culture Association of India (PTCAI), from 2010, onwards.**
- Selected and Participated in the Indo-US Workshop organized by Scientists of Michigan State University(MSU,USA) on "**Application of Molecular Marker Technology for Rapid Development and Delivery of New Crop Varieties for Enhancing Food and Nutritional Security**" at TERI University, India in Dec. 2011
- Awarded **IAPTC&B Fellowship for participation in the 'XI Int. Cong. Pl. Tiss. Cult. Biotech.'** held at Beijing, (China), August, 2006.
- Selected Top Referee 2006 by Editors of Scientia Horticulture (Elsevier) for evaluating research paper and high quality review report vide letter of **Dr. Bernard Westerop, Senior Publishing Editor, Elsevier**
- Awarded UGC National **Research Scientist 'A'** award in 1990; elevated to **Research Scientist 'B' (Reader)** in the year 1995 and promoted to **Research Scientist 'C' (Professor)** in the year 2003 at the Dept. Botany, Univ. Delhi.
- Awarded Cash prize and Certificate for best Poster entitled "***In vitro* plantlet regeneration through callus raised from Poplar trees during Non-regenerative period**" at WWF Auditorium, Delhi, during Tree- Science Conf., 1998, from April 10-13, 1998. Sponsored by Int. Union Forest Res. Org. (IFURO).
- Invited by Organisers of IX Int. Cong. Pl. Tiss. Cult. Biotech. (USA) and delivered lecture on "**Differential Hormonal Requirements for Clonal Propagation of Male and Female Plants of Jojoba**" at Jerusalem (Israel),in June , 1998):

- Awarded **DST and UGC Fellowship** for participation in the Cong. sponsored by Int. Assoc. Pl. Tiss. Cult. Biotech.held at **Jerusalem (Israel)** in June 1998.
- Awarded prize (Certificate) for **best Poster** entitled “**High Efficiency *in vitro* clonal propagation of female jobba plants**” presented during the Natal. Symp. Emerging Trends Pl. Tiss. Cult. Assoc., held at Dept. Genetics, Osmania Univ. Hyderabad, during Jan. 29-31 1997.
- Awarded CSIR (New Delhi) Research Associate-ship from Feb. 1986 to Nov. 1990 and Pool Officership(1983-1986) and UGC,JRF,SRF(1978-1982).
- Awarded **M.B.D. Merit Scholarship for M.Sc. (1975-77) for standing first in B.Sc.**
- Awarded **Gold Medal for standing first in B.Sc. in Kurukshetra University in 1974.**
- Invited by Organisers of Biotechnological Assoc. **Kathmandu (Nepal)** and presented research paper entitled “**Seasonal variations in mophogenic responses of old *Populus x euramericana* tree explants and their call.**” during Int. Conf. entitled “**Genetic Engineering and Biotechnology**” held in April 1991.
- **Represented Delhi University and delivered Invited Guest lecture at AIIMS (All India Institute of Medical Sciences, Delhi) during 2nd Int. ISHS (International Society of Horticultural Sciences) in Nov. 2009.**
- **Delivered Invited Lecture during Indo - German Workshop** in the frame of the program "Initiation and Intensification of Bilateral Cooperation" Organized by Amity Institute of Microbial Technology, Amity University Uttar Pradesh Together with Deutsche Forschungsgemeinschaft (DFG), Germany, held from- March 22 – 24, 2011.
- **Invited and Chaired the technical session on Pl. Tiss. Cult. during National Seminar on Medicinal Plants Research in India** organized by Dept. of Botany, Faculty of Science, Jamia Hamdard, New Delhi in March, 2012.
- **Invited and Chaired the technical session on Pl. Tiss. Cult. Biotech. Germplasm Conserv. during the Natal. Conf on Pl. Physiol.: Physiologic. Mol. Approaches Crop improv. under Changing Environ., held at Banaras Hindu University, Varanasi (Uttar Pradesh) in Nov. 2010.**
- **Invited and Chaired the technical session on Medicinal Plants in the 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi Nov. 2009.**
- **Invited and Chaired the technical session in the Int. Conf. Curr. Trends Biotech. Implications Agri. at Sardar Vallabhbhai Patel Univ. Agri. Tech. Meerut (U.P), in Feb. 2009.**
- **Chaired Technical Session on Plant Tissue Culture, Biotechnology and Germplasm Conservation**, during the National Conference on Plant Physiology: Physiological and Molecular Approaches for Crop improvement under Changing Environment, Banaras Hindu University, Varanasi (Uttar Pradesh). w.e.f. Nov. 25-27, 2010.
- **Chaired one of the technical sessions** during the 2nd Int. Symp. Med. Nutraceutical Pl. held at AIIMS (All India Institute of Medical Sciences), New Delhi w.e.f. 25-27 Nov. 2009.
- **Chaired one of the technical sessions** in the Int. Conf. Curr. Trends Biotech. Implications Agri. at Sardar Vallabhbhai Patel Univ. Agri. Tech. Meerut (U.P) w.e.f. Feb. 19-21, 2009.
- **Selected top Referee 2006 by Editors of Scientia Horticulture (Elsevier) for** evaluating research paper and high quality review report vide letter of Dr. Bernard Westerop, Senior Publishing Editor, Elsevier.

Association With Professional Bodies

1. Reviewing

Referee/reviewer of various International journals. A few are listed below:

- i. Reviewer of Foreign Research Project: reviewed Research Project Sent by Kuwait Research Foundation for the Advancement of Sciences, Kuwait.
- ii. Pl. Physiol. Biochem (Elsevier)
- iii. J. Nanotechnology Research
- iv. J. Genetics and Plant Breeding
- v. Pl. Biol. (Germany).
- vi. Scientia Horticulture (Elsevier).
- vii. International Journal of the Association for the Advancement of Industrial Crops, The Netherlands.
- viii. *In vitro* Cell. Dev. Biol. Pl., USA.
- ix. Ind. Jr. Forestry, Pub. ICFR Deharadun.
- x. Phytomorphology, Delhi.
- xi. J. Physiol. Mol. Bio. Pl., M.D. Univ. Rohtak.

2. Committees and Boards:

- Expert Member of UGC Committees for Considering Proposal for Assistance of various Universities under XIth Five year plan. Innovative programmes, Travel Grants, NET Examinations, etc. w.e.f. 2009 onwards.
- Expert Member of Selection Committee of Assoc. Professor/ Assist. Professor at Central Univ. Gujarat w.e.f. 2010.

3. Memberships:

International

- i. International Association for Plant Biotechnology (IAPB), USA.
- ii. Society for Low Temperature Biology, London (SLTB).
- iii. Life member of International Society of Plant Morphologists (ISPM).

National

- i. Life member of Plant Tissue Culture Association of India (PTCAI).
- ii. Life member of National Academy of Vector Borne Diseases (NAVBD).
- iii. Life membership of the Society for Advancement of Botany (SAB).
- iv. Life member of Indian Science Congress Association (ISCA).
- v. Life member of Delhi University Botanical Society (DUBS).
- vi. Life member of Eco-Transformation Society.
- vii. Life member of Indian Society of Tree Scientists (ISTS).
- viii. Life member of Orchid Society of India.
- ix. Life member of Indian Society of Plant Physiology (ISPP).
- x. Life member of Society for Biology and Biotechnology.
- xi. Life member of Medicinal and Aromatic Plants of India.

Other Activities

Development of *In vitro* technologies.

Lab to Land Technology for Important Trees and rare medicinal Plants:

- Developed micropropagation protocols in more than 20 commercially and medicinally important plants: *Arnica montana*, *Artemisia annua*, (three clones), *Calliandra tweedii*, *Cassia angustifolia* (Senna), *Centella asiatica*, *Cicer arietinum*, *Cinamomum camphora* (Camphor), *Erythrina indica*, *Holarrhena antidysenterica* (Kurchi), *Populus x euramericana*, *Psoralea corylifolia*, *Simmondsia chinensis*, *Spilanthes* (Akarkara), *Stevia rebaudiana*, *Terminalia bellirica*, *Tephrosia purpurea*, *Vernonia anthelmintica* and *Jatropha curcas*.

Formulation of Novel Herbal Extracts:

- Developed **novel larvicidal herbal extract** from *Spilanthes* (Akarkara) and *Artemisia* which caused 100% Lethality against vectors of malaria, filarial, aedes and Japanese encephalitis.
- Developed novel herbal extracts from *Psoralea corylifolia*, *Piper longum* and *Artemisia annua* plant parts that proved effective against various human cancer cell lines such as lung, leukaemia, oral and neuroblastoma, etc.

Sex-linked Markers:

- Developed **PCR based molecular markers- RAPD and ISSR** for identification of male and female *Simmondsia chinensis* plants.

Patents Filed: Filed five Indian Patents as mentioned below:

- Indian Patent vide Application No.566/DEL/2012 dated February, 2012 entitled “**A novel herbal formulation for the prevention of filarial and Japanese encephalitis vectors using leaf extract of *Artemisia annua* L. and methods thereof**”.
- Indian Patent vide Indian Patent Application No. 1786/DEL/2010 dated July 29, 2011 entitled “**Novel herbal extract of *Psoralea corylifolia* possessing strong antitumorous activity against various human cancer cell lines and method thereof**”.
- Indian Patent vide Indian Patent Application No. 1787/DEL/2010 dated July 29, 2011 entitled “**Novel herbal extract of *Psoralea corylifolia* possessing strong anticancerous activity against various human cancer cell lines and method thereof**”.
- Indian Patent vide Application No. 2122/DEL/2011 dated July 26, 2011 entitled “**Novel herbal extract of *Artemisia annua* possessing strong anticancerous activity against oral human cancer cell line**”.
- Indian Patent vide Application No. 998/DEL/2006 dated April 17, 2006 entitled “**Extraction Process for isolation of Psoralen from *Psoralea corylifolia***” through DU and TIFAC.

Submission to NCBI Gene Banks and Accession Numbers:

- Purty R.S. Gupta, S.C. and Agrawal, Veena. 2005. **Gene coding for boiling stable protein (*bspS*) expressed during drought stress as well as upregulated by ABA treatment in *Sesbania sesban* var. color** vide their Accession No. AJ582752 in the year 2005.
- Kumar, R., Shary, S., Guha-Mukherjee, S. and Agrawal, Veena. 2007. ***Nicotiana tabacum* cDNA expressing during**

- ❖ All India Institute of Medical Science, New Delhi.
- ❖ Pt. Ravi Shankar Shukla University, Raipur (Chattisgarh).
- ❖ Chattrapati Shahu Ji Maharaj University, Kanpur.
- ❖ Indian Institute of Chemical Biology, Kolkata.
- ❖ Banasthali University, Rajasthan.
- ❖ Jadhavpur University, Kolkata
- ❖ Rajasthan University, Jaipur
- ❖ Jai Narain Vyas University, Jodhpur
- ❖ Sambalpur University, Orissa.
- ❖ MLS University, Udaipur.
- ❖ Amity Univ., Noida, UP.
- ❖ University of Kashmir, Kashmir.
- ❖ M.D.U University, Rohtak, Haryana.
- ❖ C.C.S University, Meerut, Uttar Pradesh.
- ❖ Kurukshetra Univ., Haryana.
- ❖ Jamia Hamdard University, New Delhi.
- ❖ North Eastern Hill Univ., Shillong (Meghalaya).
- ❖ Gurukul Kangri Univ., Haridwar.
- ❖ Rajasthan University, Jaipur

early stage of male gametophyte development. vide their Accession No. EF532799 dated April 2, 2007.

- Kumar, R., Shary, S., Guha-Mukherjee, S. and Agrawal, Veena. 2007. *Nicotiana tabacum* **putative flower flower specific thionin cDNA** vide their Accession No. EF544390 dated April 9, 2007.
- Parast, B.M., Chetri, S.K., Sharma, K., Kumar, R and Agrawal, Veena. 2011. *Cullen corylifolium* **psoralen synthase-like mRNA partial sequence** vide Accession. No. HM572323.

Selection and Participation in Research Workshops:

- Participated in a two day workshop as **Resource Person for Biotechnology Session, held at Yamuna Nagar (January 11-12, 1998) and attended all** four sessions on Biochem. Allergy & Applied Immunology, Biotechnology & Molecular Biology.
- **Participated in the DBT sponsored training programme on “Cloning, Characterization and Sequencing of Plant Genes”** held at Centre of Plant Molecular Biology, School of Life Sciences, Jawahar Lal Nehru Univ., (Dec. 1994) New Delhi and learned technique for isolation of plasmid DNA, RNA, Plant DNA, electrophoresis, *Agrobacterium* mediated gene transfer and assay for transgene expression.
- **Participated in DBT sponsored workshop-cum-symposium on “Molecular immunology, gene structure and expressions”** held at **Indian Institute of Science, Bangalore** (Dec. 1991) and gained experience in handling modern tools of biochemistry e.g. Slab Gel Electrophoresis for protein/ DNA separation, Southern, Northern, Western, blotting and ELISA.
- Participated and learned techniques during the workshop **on Plant Genetic Transformation held at Delhi University in the Laboratory of Professor S. C. Gupta** conducted by Professor S. C. Minocha, Univ. of New Hampshire, Durham, USA during 1990-91.

FOREIGN VISITS:

- **Kathmandu (Nepal):** Invited by Biotechnological Assoc. Nepal to attend Int. Conf. “**Genetic Engineering and Biotechnology**” There, I Presented paper entitled “**Seasonal variations in morphogenic responses of old *Populus x euramericana* tree explants and their call**” in April 15-20, 1991.
- **Jerusalem (Israel):** Invited by IX Int. Cong. Pl. Tiss. Cult. Biotech. (USA) to orally present research paper. There I orally presented paper entitled “**Differential Hormonal Requirements for Clonal Propagation of Male and Female Plants of Jojoba**” in June 14-19, 1998.
- Developed special course “Biotechnology of Medicinal and Aromatic Plants” for M.Sc. Final Botany which has already been approved by Academic Council.
- **CV invited/selected for publication in:**
 - (i) “**Plant Sciences by Indian Women**”, compiled by Prof. Muhammad Iqbal, Department of Botany, Hamdard University, New Delhi (In Press).
 - (ii) “**Marquis Who’s Who**” Biographical data for Science and Engineering, 2007.
 - (iii) “**Afro-Asians Who’s Who**” by Rifacimento International, New Delhi-110002, 2006, p.13.
- **SUMMER TRAINING TO UNDER/ POST GRADUATE STUDENTS:**

Imparted summer training to around 20 various students of different institutions in the area of plant tissue culture and biotechnology e.g. Dr. B. R. Ambedkar Centre for Biomedical Research (A.C.B.R), Delhi University, Hindu College, Delhi University, Amity University, Biotechnology Dept. Fakir Mohan University, Orissa, M.D. University, Rohtak, C. C. S. Univ., Meerut and Gurukul Kangri Vishwavidyalaya, Haridwar.

Signature of Faculty Member

Signature of Head

You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.