Faculty Details proforma for DU Web-site

Title	Mr.	First Name	Pradeep	Last Name	Kumar Burma	Photograph
Designation		Professor				
Address		Department of Genetics, University of Delhi South Campus, Benito Juarez Road, New Delhi 110021				
Phone No Office		91-11-24115221				
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Mobile						
Email		pburma@south.du.ac.in				
Web-Page		genetics.du.ac.in				

Educational Qualifications

Degree	Institution	Year
Ph.D.	Banaras Hindu University	1989
M. Sc. (Zoology)	Banaras Hindu University	1982
B.Sc. (Zoology Hons.)	Banaras Hindu University	1980

Career Profile

Organization	***Year***	***Position***
Academic		
Department of Genetics University of Delhi South Campus	01.01.2009 – to date	Professor
-do-	01.01.2006 – 31.12.2008	Associate Professor
-do-	14.02.2002 - 31.12.2005	Reader
-do-	27.07.1998 – 13.02.2002	Senior Lecturer
-do-	03.06.1993 – 26.07.1998	Lecturer
Department of Biophysics Indian Institute of Science Bangalore	January 1990 – May 1993	Research Associate

Administrative

Dean, Faculty of Interdisciplinary and Applied Sciences, 16.09.2015 to 15.09.2018

Head, Department of Genetics, 08.09.2015 to 15.09.2018

Head, Department of Biophysics, 16.09.2015 to 11.05.2017

Head, Department of Physical Education and Sport Sciences, 16.09.2015 to 21.01.2016

Joint Proctor, University of Delhi, 2012

Administrative Assignments

Chairperson and member of several committees set up for functioning of different facilities at UDSC.

Areas of Interest / Specialization

Teaching: Genetics
Research: Plant Biology –
Expression of transgene expression in plants: analyzing promoters, codon usage, UTRs and introns.
Developing transgenics for hybrid seed production and insect resistance in cotton

Subjects Taught

- Concepts in Genetics
- Gene Expression and Regulation
- Developmental Biology
- Experiments in Recombinant DNA Technology and Bacterial Genetics

Research Guidance

Supervision of awarded Doctoral Thesis **- 14**

i. Suma Chakravarthy (2000): Modifications of the CaMV 35S promoter as a strategy towards circumventing homology based gene silencing

ii. Simran Bhullar (2003): Strategies towards developing promoters to circumvent homology based gene silencing : CaMV 35S promoter as a model

iii. Sudipta Datta (2006): Analysis of CaMV 35S promoter and testing synthetic promoters for homology based gene silencing

iv. Ranjana Verma (2006): Molecular genetics of schizophrenia and bipolar disorder (Joint supervision)

v. P. Kavita (2008): Structural and expression analysis of tapetum specific promoters in *Brassica* species

vi. Parul Aggarwal (2011): Optimizing transgene expression in plants: Identification and testing of promoters from *Arabidopsis thaliana* and analyzing codon usage patterns.

vii. Gurpreet Kaur (2012): Studies on improving transgene expression in dicotyledonous plants by intron-mediated enhancement

viii. Shaveta Kanoria (2012): Studies on the role of a synthetic 5'UTR on transgene expression in dicotyledonous plants

ix. Rakhee Lohia (2014): Role of HDACs during growth, development and differentiation of *Dictyostellium discoideum* (Joint supervision)

x. Kaur Kulwinder (2014): Development of transgenic lines in rice for male sterility (Joint supervision)

xi. Amita Kush Mehrotra (2015): Analysis of promoters of genes expressed in anthers of cotton and development of an intron containing *barnase* gene

xii. Madhurima Kahali (2017) : Studies to delineate region(s) of Cry1Ac protein responsible for its adverse effects on regeration and growth of transgenic tobacco (*Nicotiana tabacum* cv. Xanthi) plants

xiii. Neetu Verma (2018): Analysis of tapetum specific promoter *A9* from *Arabidopsis*

thaliana

xiv. Preeti Kundanani (2019): Characterization of tapetum specific promoter TA29 from *Nicotiana tabacum*

Supervision of Doctoral Thesis, under progress - **3**

i. Shipra Saxena: Developing transgenics in Brinjal for resistance to shoot and fruit borer by using RNAi strategy

ii. Kamlesh Soni: Analysis of tapetum specific promoters.

iii. Bishenjit Singh: Analysis of plant promoters.

Supervision of awarded M.Phil dissertations - **4**

i. Parul Agarwal (2004): Isolation, sequencing and phylogenetic footprinting of tapetum specific A9-like genes from *Brassica* species.

ii. Sandipa Singh (2005): Variability in transgene expression in plants.

iii. Neeti Yadav (2008): Functional analysis of CaMV35S promoter: studies on subdomain B4.

iv. Varsha Garg (2012): An analysis of two 5'UTR from *Arabidopsis thaliana* on transgene expression in tobacco

Publications Profile

RESEARCH PAPER

1. Agarwal P, Gautam, T, Singh AK and **Burma PK** (2019) Evaluating the effect of codon optimization on expression of *bar* gene in transgenic tobacco plants **Journal of Plant Biochemistry and Biotechnology** 28:189-202
2. Paritosh K, Singh A K, Mehrotra AK, Pental D and **Burma PK** (2018) Identification and characterization of the promoter of a gene expressing mainly in the tapetum tissue of cotton (Gossypium hirsutum. L) **Plant Biotechnology Reports** 12:377-388
3. Lohia R, Jain P, Jain M, Mishra H, **Burma PK**, Shrivastava A, Saran S (2018) Deletion of Dictyostelium discoideum Sir2A impairs cell proliferation and inhibits autophagy **Journal of Biosciences** 43:351-364
4. Sharma PA, Verma V, **Burma PK** (2018) Analysis of activity driven by Upstream Regulatory Modules (URM) of tapetum specific genes TA29 and A9 at ectopic locations in tobacco transgencis **Journal of Plant Biochemistry and Biotechnology** 27:443-452
5. Sharma PA, **Burma PK** (2018) An *in silico* analysis of upstream regulatory modules (URMs) of tapetum specific genes to identify regulatory *cis*-elements and transcription factors **American Journal of Molecular Biology** 8.15-25
6. Verma N, **Burma PK** (2017) Regulation of tapetum-specific *A9* promoter by transcription factors AtMYB80, AtMYB1 and AtMYB4 in *Arabidopsis thaliana* and *Nicotiana tabacum* **The Plant Journal** 92:481-494
7. Kumar P, Kaur K, Purty RS, Mohan M, **Burma PK** (2017) Development of male sterile transgenic lines in rice by tapetum specific expression of *barnase* gene **Journal of Plant Biotechnology** 44:364-371
8. Lohia R, Jain P, Jain M, **Burma PK**, Shrivastava A, Saran S (2017) *Dictyostelium discoideum* Sir2D protein, an ortholog of human SIRT1, modulates cell-type specific gene expression and is

involved in autophagy **The International Journal of Developmental Biology** 61:95-104

9. Kahali M, Soni KK, **Burma PK** (2017) Studies on trans-generational transcriptional silencing of *cry*1*Ac* gene in tobacco transgenics **American Journal of Molecular Biology,** 7**:** 1-10
10. Singh AK, Kumar P, Kant U, **Burma PK**, Pental D (2016) High expression of Cry1Ac protein in cotton (*Gossypium hirsutum*) by combining independent transgenic events that target the protein to cytoplasm and plastids **PLoS ONE** 11(7): e0158603. doi:10.1371/journal.pone.0158603
11. Bisht NC, Jagannath A, Rehna Augustine, **Burma PK**, Gupta V, Pradhan A and Pental D (2015) Effective restoration of male-sterile (*barnase)* lines requires overlapping and high levels of barstar expression: A multi-generation field analysis in *Brassica juncea* ***Journal of Plant Biochemistry and Biotechnology*** 24:393-399
12. Mehrotra AK, Bhullar S and **Burma PK** (2014) Development of intron-containing barnase gene (barnase-int) encoding a toxic protein to facilitate its cloning in bacterial cells ***Journal of Plant Biochemistry and Biotechnology*** 23:435-439
13. Verma N, **Burma PK** (2014) A method to synthesize cDNA constructs by based recombinatinal cloning ***American Journal of Molecular Biology*** 4:16-19
14. Agarwal P, Garg V, Gautam T, Pillai B, Kanoria S and **Burma PK** (2013) A study on the the influence of different promoter and 5'UTR (URM) cassettes from *Arabidopsis thaliana* on the expression level of the reporter gene *β-glucuronidase* in tobacco and cotton ***Transgenic Research*** doi: 10.1007/s1248-613-9757-9
15. Kumar P, Pental D and **Burma PK** (2013) Structural and transcriptional characterization of *rbcS* genes of cotton (*Gossypiumhirsutum*) ***Plant Molecular Biology Reporter*** 31:1176-1183 doi: 10.1007/s11105-013-0576-1
16. Kanoria S and **Burma PK** (2012) A 28nt long synthetic 5′UTR (synJ) as an enhancer of transgene expression in dicotyledonous plants ***BMC Biotechnology*** 12:85 doi:10.1186/1472-6750-12-85
17. Rawat P, Singh AK, Ray K, Chaudhary B, Kumar S, Gautam T, Kanoria S, Kaur G, Kumar P, Pental D and **Burma PK** (2011) Detrimental effect of expression of *Bt* endotoxin Cry1Ac on *in vitro* regeneration, *in vivo* growth and development of tobacco and cotton transgenics **Journal of Bioscience** 36(2): 363-376
18. Bhullar S, Datta S and **Burma PK** (2011) Delayed *trans*-inactivation of synthetic domain 35S promoters by "tobacco 271 locus" due to reduced sequence homology **Plant Molecular Biology Reporter** 29: 1-11
19. Jagannath A, Sodhi YS, Gupta V, Mukhopadhyay A, Arumugam N, Singh I, Rohatgi S, **Burma PK**, Pradhan AK, Pental D (2011) Eliminating expression of erucic-acid encoding loci allows the identification of 'hidden' QTL contributing to oil quality fractions and oil content in *Brassica juncea* (Indian Mustard) **Theoretical and Applied Genetics** 122: 031091-11
20. Bhullar S, Chakravarthy S, Pental D and **Burma PK** (2009) Analysis of Promoter Activity in Transgenic Plant by Normalizing with Reference Gene: Anomalies Due to Influence of Test Promoter on Reference Promoter **Journal of Bioscience** 34(6): 953-962
21. Rawat P, Kumar S, Pental D and **Burma PK** (2009) Inactivation of a transgene due to transposition of insertion sequence (IS136) of *Agrobacterium tumefaciens* **Journal of Bioscience** 34(2): 199-202
22. Rawat P, Ray K, Pental D and **Burma PK** (2008) Mutant *acetolactate synthase* gene conferring resistance to the herbicide "imazethapyr" is an efficient *in vitro* selection marker for genetic

transformation of cotton **Current Science** 95(10):1454-1458

23. Kavita P and **Burma PK** (2008) A comparative analysis of sGFP and GUS protein encoding genes as reporter system for studying temporal expression profiles of promoters **Journal of Bioscience** 33(3):337-343
24. Ray K, Bisht NC, Pental D and **Burma PK** (2007) Development of *barnase/barstar* transgenics for hybrid seed production in Indian oilseed mustard (*Brassica juncea* l. Czern & Coss) using a mutant acetolactate synthase gene conferring resistance to imidazolinone-based herbicide 'Pursuit' **Current Science** 93: 1390-1396
25. Bhullar S, Datta S, Advani S, Chakravarthy S, Gautam T, Pental D and **Burma PK** (2007) Functional analysis of Cauliflower Mosaic Virus 35S promoter: re-evaluation of the role of subdomains B5, B4 and B5 in promoter activity **Plant Biotechnology Journal** 5: 696-708
26. Bisht NC, Jagannath A, **Burma PK**, Pradhan A, Pental D (2007) Retransformation of a male sterile barnase line with the barstar gene as an efficient alternative method to identify male sterile-restorer combinations for heterosis breeding **Plant Cell Reports** 26: 727-733
27. Arumugam N, Gupta V, Jagannath A, Mukhopadhyay A, Pradhan AK, **Burma PK,** Pental D (2007) A passage through in vitro culture leads to efficient production of marker-free transgenic plants in *Brassica juncea* using the Cre-*loxP* system **Transgenic Research** 16:703-712
28. Panjabi P, **Burma PK**, Pental D (2006) Use of the transposable element Ac/Ds in conjunction with Spm/dSpm for gene tagging allows extensive genome coverage with a limited number of starter lines : Functional analysis of a four-element system in *A. thaliana* **Molecular Genetics and Genomics** 276:533-543
29. Kumar S, Birah A, Chaudhary B, **Burma PK**, Gupta GP, Pental D (2005) Plant codon optimized *cry* genes of *Bacillus thuringeniensis* can be expressed as soluble proteins in *E. coli* BL21 Codon Plus strain as NusA- Cry protein fusions **J of Invertebrate Pathology** 88:83-86
30. Bisht NC, Jagannath A, Gupta V, **Burma PK**, Pental D (2004) A two gene- two promoter system for enhanced expression of a restorer gene (*Barstar*) and development of improved fertility restorer lines for hybrid seed production in crop plants **Molecular Breeding** 14:129-144
31. Sivaraman I, Arumugam N, Sodhi YS, Gupta V, Mukhopadhyay A, Pradhan AK, **Burma PK** Pental D (2004) Development of high oleic and low linoleic acid transgenics in a zero erucic acid *Brassica juncea* L. (Indian Mustard) line by antisense suppression of the *fad2* gene **Molecular Breeding** 13:365-375
32. Bisht NC, **Burma PK**, Pental D (2004) Development of 2,4-D resistant lines in Indian mustard (***B. juncea***) **Current Science** 87:367-370
33. Ray K, Jagannath A, Gangwani SA, **Burma PK,** Pental D (2004) Mutant *Acetolactate synthase* gene is an efficient *in vitro* selectable marker for the genetic transformation of *Brassica juncea* (oilseed mustard) **J of Plant Physiology** 161:1079-1083
34. Bhullar S, Chakravarthy S, Advani S, Datta S, Pental D, **Burma PK** (2003) Strategies for development of functionally equivalent promoters with minimum sequence homology for transgne expression in plants : cis-elements in a novel DNA context versus domain swapping **Plant Physiology** 132:988-998
35. Chandra A, Gupta V, **Burma PK**, Pental D (2003) Patterns of morphogenesis from cotyledon explants of Pigeonpea; **In Vitro Cell Dev Biol.- Plant** 39:514-519.
36. Chaudhary B, Kumar S, Prasad KVSK, Oinam GS, **Burma PK**, Pental D (2003) Slow dessication leads to high frequency shoot recovery from transformed somatic embryos of cotton

(*Gossypium hirsutum* L. cv. Coker 310FR) **Plant Cell Reports** 21:955-960.

37. Jagannath A, Arumugam N, Gupta V, Pradhan A, **Burma PK**, Pental D. (2002) Development of transgenic barstar lines and identification of a male sterile (barnase) / restorer (barstar) combination for heterosis breeding in Indian oilseed mustard (*Brassica juncea*) **Current Science** 82:46-52.
38. Jagannath A, Bandyopadhyay P, Arumugam N, Gupta V, **Burma PK**, Pental D (2001) The use of a Spacer DNA fragment insulates the tissue-specific expression of a cytotoxic gene (barnase) and allows high-frequency generation of transgenic male sterile lines in *Brassica juncea L*. **Molecular Breeding** 8: 11-23.
39. Phogat SK, Gupta R, **Burma PK**, Sen K, Pental D (2001) On the estimation of number of events required for saturation mutagenesis of large genomes. **Current Science** 80: 823-824.
40. Phogat SK, Burma PK, Pental D (2000) High frequency regeneration of Brassica napus varieties and genetic tranformation of stocks containing fertility restorer genes for two cytoplasmic male sterility systems **J Plant Biochemistry and Biotechnology** 9: 73-79.
41. Phogat S, **Burma PK**, Pental D (2000) A four-element based transposon system for allele specific tagging in plants - Theoretical considerations **J. Biosciences** 25: 101-107.
42. Mehra S, Pareek A, Bandyopadhyay P, Sharma P, **Burma PK**, Pental D (2000) Development of transgenics in Indian oilseed mustard (*Brassica juncea*) resistant to herbicide phosphinothricin. **Current Science** 78(11): 1358-1364.
43. Raghavan S, **Burma PK,** Brahmachari SK (1997) Positional preferences of polypurine/polypyrimidine tracts in *Saccharomyces cerevisiae* genome : Implications for *cis*-regulation of gene expression **J Molecular Evolution** 45:485-498
44. Brahmachari SK, Sarkar PS, **Burma PK,** Shaligram US, Pataskar S (1995) Synthetic gene design for modulation of gene expression in vivo In Proceedings of Ranbaxy Symposium on **Molecular Genetics and Gene Therapy** pp:85-97
45. **Burma PK**, Raj A, Deb K, Brahmachari SK (1992) Genome Analysis I: A new approach for visualisation of sequence organisation in genomes **J of Biosciences** 17(4):395-411
46. Brahmachari SK, Sarkar PS, Balagurumoorthy P, **Burma PK**, Bagga R (1991) Synthetic gene design to investigate the role of *cis*-acting DNA structural elements in regulation of gene expression in vivo **Nucl Acids Res** Sym ser 24:163-166
47. Lakhotia SC, Chowdhuri DK, **Burma PK** (1990) Mutations affecting beta-alanine metabolism influence inducubility of the 93D puff by heat shock in *Drosophila melanogaster* **Chromosoma** 99:296-305
48. **Burma PK**, Lakhotia SC (1986) Expression of 93D heat shock puff of *Drosophila melanogaster* in deficiency genotypes and its influence on activity of the 87C puff **Chromosoma** 94:273-278
49. **Burma PK**, Lakhotia SC (*1984)* Cytological identity of 93D-like and 87C-like heat shock loci in *D. pseudoobscura* **Ind J Exp Biol** 22:577-580

REVIEW ARTICLES

50. Jagannath A, Bandyopadhyay P, Mehra S, Arumugam N, **Burma PK**, Pental D. *Agrobacterium*-mediated genetic transformation of *Brassica juncea*. *In* Plant Genetic Engineering Vol. II: Improvement of major food crops, Eds. Pawan K. Jaiwal and Rana P. Singh, Sci-Tech. Pub. Co., Texas, USA.
51. Pental D, Pradhan A, Mukhopadhyay A, Gupta V, Arumugam N, Sodhi, YS, **Burma PK**, Verma J, Jagannath A, Bandyopadhyay P, Phogat S, Mehra S, Srivastava A. 2000. Breeding of oilseed

Brassica species by a combination of conventional breeding and genetic engineering. *In* Rapeseed-Mustard : At the doorstep of the new millennium, Eds. A.K. Bhatnagar, R.K. Shukla and H.B. Singh, Mustard Research and Promotion Consortium, India.

BOOK REVIEW

Fundamentals of Genetics. G S Miglani. Narosa Publishing House, New Delhi. 2008 in **Current Science** 2009, 96(1) 162-164

Genetically Engineered Crops in Developing Countries. Editors Reddy DVR et al., Studium Press, USA. 2015 in **Proc. of INSA**

PATENTS

1. Regulation of lethal gene expression in plants. Pental D, Jagannath A, Bandyopadhay P, Arumugam N, Gupta V, **Burma PK** US Patent: US 6,833,494 dated 21.12.2004 (Granted)
2. A method of obtaining improved fertility restorer lines for transgenic male sterile crop plants and a DNA construct for use in said method. Bhist N, Jagannath A, Gupta V, **Burma, PK**, Pental D European patent No: 1644506 dated 07.07.2003 (Granted)
3. A method for producing an insulator construct. Jagannath A, Bandyopadhay P, Arumugam N, Gupta V, **Burma PK**, Pental D Indian Patent 199542 dated 08.09.2006 (Granted)
4. Regulate expression of insecticidal proteins only in the green tissues of cotton. Singh A, Paritosh Kumar, **Burma PK**, Pental D Indian Patent 201611022018 dated June 27, 2016 (Filed)
5. Transgenic event in cotton with Cry1Ac gene. Singh A, Paritosh Kumar, **Burma PK**, Pental D Indian Patent 201611018037 dated May 25 2016 (Filed)

Conference Organization/ Presentations (in the last three years)

Participation as Paper/Poster Presenter

1. Invited speaker, XXXVIII All India Cell Biology Conference, CSIR-CDRI, Lucknow, December, 2014: Analysing reasons that effect plant regeneration due to cytosolic expression of Cry1Ac protein.
2. Invited speaker, DBT-sponsored short term training course on Plant Transgenic Technologies, MD University, Rohtak, October 2014: Parameters influencing expression of transgenes in plants.
3. Invited speaker, Biosparks 2014, JNU, New Delhi, March 2014: Research: 99%Failure/odd results, 1% success/expected results.

Research Projects (Major Grants/Research Collaboration)

On-going:

1. Analyzing the regulation of tapetum specific TA29 promoter from *Nicotiana tabacum*. Funded by **Science and Engineering Research Board**, Govt. of India

Completed Projects:

2. Bollworm resistance and hybrid seed production in cotton. Bollworms (in collaboration with Prof. Deepak Pental). Funded by **Indian Council of Agriculture Research**, Govt. of India
3. Analyzing the organization of tapetum specific promoters of plants – using the promoter of A9 gene from *Arabidopsis thaliana* as a model. Funded by **Council of Scientific and Industrial Research**, Govt. of India
4. Novel approaches for production of hybrid seeds with characteristics of improved resistance and higher yield – cotton component. Multi-Institutional project funded by **CSIR-NIMITLI**

5. Comparative analysis of expression of *cry1Ac* gene in different cotton transgenic events commercialized in India. Funded by **DU/DST Purse Grant**
6. Knowledge-based design of synthetic promoters to (a) circumvent homology based silencing of transgene in plants and (b) enhance tissue specific expression. Funded by **Department of Biotechnology**, Govt. of India.
7. Characterization of CaMV 35S promoter to develop synthetic promoter(s) for avoiding homology-based gene silencing. Funded by **Department of Biotechnology**, Govt. of India.
8. Development of fully regenerating lines in Indian Cotton cultivars, vectors for cotton transformation and transgenics for resistance to Bollworms (in collaboration with Prof. Deepak Pental) Funded by **Department of Biotechnology**, Govt. of India.
9. Development and analysis of cotton transgenics for resistance to insect pests (Bollworm complex) Funded by **Department of Biotechnology**, Govt. of India.
10. Development of a four-element transposon system for directed tagging of alleles of high agronomic value in crop plants (in collaboration with Prof. Deepak Pental) Funded by **NIMITLI-CSIR**, Govt. of India.
11. Transgenics in (a) Mustard (*Brassica juncea*) for heterosis breeding and (b) pigeonpea (*Cajanus cajan*) for resistance to insect pest Heliothis armigera (in collaboration with Prof. Deepak Pental). Funded by **Department of Biotechnology**, Govt. of India.
12. Synthesis of genes modified for enhanced and stable expression in dicotyledonous crops : (A) Bar and tfdA genes for conferring herbicide resistance (B) Barstar and barnase encoding genes for heterosis breeding (in collaboration with Prof. Deepak Pental). Funded by **Indian Council of Agricultural Research**, Govt. of India.

Awards and Distinctions

- **INSA Teachers award** for the year 2016, Indian National Science Academy, New Delhi.
- **University Gold Medal**, Banaras Hindu University for standing first in M.Sc. Zoology examination.
- Received **ISPMB visiting scientist** award for 2001 (did not avail).

Association With Professional Bodies

1. Vice President, Indian Society of Cell Biology
2. *Member of*
   - SERB SRG/NPDF Life Sciences committee
   - Academic team for Indian Junior Science Olympiad
   - Academic team for Indian Biology Olympiad
   - Advisory Committee, PG Diploma Course in Molecular and Biochemical Technology, Sri Venkateswara College, University of Delhi
   - The Biotech Research society, India
3. *Reviewing*

   Referee for a number of Foreign and Indian scientific journals like BMC Biotechnology, Plant Cell Reports, Plant Physiology, Plant Molecular Biology, Plant Molecular Biology Reporter, Plant and Cell Physiology, Plant Science, Plant Biotechnology Journal, Current Science, Journal of Bioscience, PlosONE.

Other Activities
i. Observer and Jury member from India at the International Biology Olympiad 2018 held at Tehran, Iran.
ii. Organized a one-day 'Workshop on Microscopy' supported by Indian Society of Cell Biology and the Department of Genetics
iii. Team leader of the squad representing India in the International Junior Science Olympiad 2016 held at Bali, Indonesia.
iv. Team leader of the squad representing India in the International Junior Science Olympiad 2015 held at Daegu, Republic of Korea.
v. Organized, hands-on-workshop for school teachers to carry out innovative experiments in science in collaboration with Homi Bhaba Centre for Science Education and Centre for Science Education and Communication (DU).
vi. Involved in selection and training of school students for International Junior Science Olympiad and International Biology Olympiad.
vii. Deliver lectures/mentor in several Science Camps under INSPIRE internship scheme like Bhaskaracharya College, RKG Institute of Technology for Women. Also deliver talks under the auspices of 'XV Genetic Congress Trust' to school children e.g. APEEJAY School, Bal Bharthi Airforce School
viii. Am regularly invited to teach at the Academic Staff College of JNU, New Delhi.
ix. Chairperson, Board of Research Studies, Faculty of Interdisciplinary and Applied Sciences, UDSC
x. Member/Chairperson of several academic and administrative committees of University of Delhi.