

Curriculum Vitae of

Beena Pillai

Director,

BRIC-Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram, Kerala

Chief Scientist

CSIR-Institute of Genomics and Integrative Biology (IGIB), New Delhi

<http://scholar.google.co.in/citations?user=ofN6G20AAAAJ&hl=en>

Professor

Faculty of Biological Sciences

Academy of Scientific and Innovative Research (AcSIR)



Research Interests:

- Non-coding RNA- target networks in neurogenesis and brain development in mice and zebrafish.
- Neuronal dysfunction resulting from polyglutamine expansion in neurodegenerative diseases.
- Search for a nerve regeneration factor from earthworms.

Positions Held:

Scientist Fellow, CSIR-IGIB (Aug 2002- Jan 2004)

Scientist, CSIR-IGIB (Jan 2004 -Jan 2007)

Senior Scientist, CSIR-IGIB (Jan 2007- 2011)

Principal Scientist, CSIR-IGIB (Jan 2011 - 2016); Associate Professor, AcSIR (2014 onwards)

Senior Principal Scientist (Jan 2016- Jan 2020)

Chief Scientist (Since 2020)

Education:

B. Sc (1995) Microbiology; Ramnarain Ruia College, Mumbai

M S (1998) Life sciences; IISc, Bangalore

Ph.D (2002) Life sciences; IISc, Bangalore

Honors/Awards:

- National Bioscience Award, 2018
- Indian National Science Academy- Young Scientist Award, 2009
- CSIR Young Scientist Award (Biological Sciences), 2008

Other Positions:

- Member, Governing Body, Institute of Human Resources Development (IHRD), Government of

Kerala.

- Expert Member, Planning & Programming Committee, National Science Centre, Delhi
- Member, Board of Trustees, XV Genetics Congress Trust
- Member, Guha Research Council
- Expert Member (past), [Delhi Effective Education & Pedagogy Cluster \(DEEP-C\)](#)

Research Overview:

- Explored the role of microRNAs in pathological phenomena including neurodegeneration and AIDS progression
- Carried out clinical studies to explore the utility of miRNAs as biomarkers for disease progression.
- Demonstrated the involvement of several epigenetic factors including lncRNAs, miRNAs, and histone variants in gene expression and neural development.
- Completed genome sequencing, transcriptomics and metagenomics of earthworm *E. fetida* as part of an ongoing attempt to identify nerve regeneration factors.
- Developed methods for miRNA detection, target identification, meta-analysis and in vivo delivery.
- Collaborated with several groups to provide expertise in gene expression profiling.
- Identified the role of RNA polymerase subunit, Rpb4 in yeast stress response (Ph.D research topic)

Publications:

Research Papers: 61; Book Chapters: 4; h-index =28; Citations:3605

1. Divya Chaubey, Dheeraj Chandra Joshi, Sanovar Dayal, Shweta Verma, Chetana Sachidanandan, **Beena Pillai***. [bucky ball mRNA is responsive to the total RNA content in the fertilized zebrafish oocyte](#). Biochemical and Biophysical Research Comm. 2026, 153328 (in press)
2. Joshi Dheeraj, Kadam Aakanksha, Sachidanandan Chetana, **Pillai Beena***. [A comprehensive analysis of the inherited lncRNA and circRNA repertoire of zebrafish](#). Bioinform Adv. 2025 Jun 12;5(1):vbaf139.
3. Dayal Sanovar, Chaubey Divya, Joshi Dheeraj, Ranmale Samruddhi , **Pillai Beena***. [Noncoding RNAs: Emerging regulators of behavioral complexity](#). Wiley Interdisciplinary Reviews: RNA 2024 15 (3), e1847
4. Bandesh K, Pal M, Balakrishnan A, Gautam P, Jha P, Tandon N, **Pillai B***, Bharadwaj D*. [A novel antisense lncRNA, ARBAG harboring an RNA destabilizing GWAS variant for C-peptide dictates the transcript isoforms of GABRA6 in cerebellum](#). Hum Mol Genet. 2023 Sep 16;32(19):2929-2939. (*Co-Communicating Author)
5. Pal Muneesh, Chaubey Divya, Tanwar Mohit, **Pillai Beena***. [A Novel Cis-Regulatory lncRNA, Kalnc2, Downregulates Kalrn Protein-Coding Transcripts in Mouse Neuronal Cells](#). Noncoding RNA. 2023 Jan 13;9(1).
6. Rawat Rohit Singh, Bhambri Aksheev, Pal Muneesh, Roy Avishek, Jain Suman, **Pillai Beena**, Konar Arpita. [Early life stressful experiences escalate aggressive behavior in adulthood via changes in transthyretin expression and function](#). Elife. 2022 Oct 13;11. doi: 10.7554/eLife.77968.

7. Rawat Jyoti, Bhambri Aksheev, Pandey Ujjiti, Banerjee Sanchita, **Pillai Beena**, Gadgil Mugghda. [Amino acid abundance and composition in cell culture medium affects trace metal tolerance and cholesterol synthesis](#). Biotechnol Prog. 2022 Aug 24;:e3298.
8. Kathpalia Poorti, Konar Arpita and **Pillai Beena***. [Home laboratory: interactive science from the kitchen](#). Nature. 2021 Aug;596(7873):486. [Correspondence]
9. Bhattacharya Aniket, Jha Vi, Singhal K, Fatima M, Singh D, Chaturvedi G, Dholakia D, Kutum R, Pandey R, Bakken TE, Seth Pankaj, **Pillai Beena**, Mukerji Mitali*. [Multiple Alu Exonization in 3'UTR of a Primate-Specific Isoform of CYP20A1 Creates a Potential miRNA Sponge](#). Genome Biol Evol. 2021 Jan 7;13(1):evaa233.
10. Patel, SS; Zunjarrao, Sanyami; **Pillai Beena***. [Neev, a novel long non-coding RNA, is expressed in chaetoblasts during regeneration of Eisenia fetida](#). Journal of Experimental Biology, 223 (8), 2020
11. Bhambri, Aksheev; Pinto, Akeeth; **Pillai, Beena***. [Interferon mediated neuroinflammation in polyglutamine disease is not caused by RNA toxicity](#). Cell Death and Disease, 11(1):3, 2020.
12. **Pillai, Beena***. What the mother gives..Resonance March 2019, 381-391 [Review article on Maternal inheritance in special issue on International Women's Day]
13. Ramasamy, Soundhar; Sharma, Surbhi; Iyengar, BR.; Vellarikkal, SK.; Sivasubbu, Sridhar; Maiti, Souvik and **Pillai, Beena***. [Identification of novel circadian transcripts in the zebrafish retina](#). Journal of Experimental Biology, 222:jeb192195, 2019
14. Bhambri, Aksheev; Dhaunta, Neeraj; Patel, SS; Hardikar, Mitali; Bhatt, Abhishek; Srikakulam, N. **Pillai, Beena***. [Large scale changes in the transcriptome of Eisenia fetida during regeneration](#). PLoS ONE, 13 (9), e0204234, 2018
15. Sarangdhar, Mayuresh Anant; Chaubey, Divya; Srikakulam, Nagesh; **Pillai, Beena***; [Parentally inherited long non-coding RNA Cyrano is involved in zebrafish neurodevelopment](#); Nucleic acids research; 46 (18), 9726-9735; 2018
16. Sarangdhar, Mayuresh Anant; Chaubey, Divya; **Pillai, Beena***; [Role of Non-coding RNA in Sculpting Neurons](#); Proceedings of the Indian National Science Academy; 84; 2; 493-500; 2018
17. Iyengar, Bharat Ravi; **Pillai, Beena**; Venkatesh, KV; Gadgil, Chetan J; [Systematic comparison of the response properties of protein and RNA mediated gene regulatory motifs](#); Molecular BioSystems; 13; 6; 1235-1245; 2017
18. Sarangdhar, Mayuresh A; Chaubey, Divya; Bhatt, Abhishek; KM, Monisha; Kumar, Manish; Ranjan, Shashi; **Pillai, Beena***; [A novel long non-coding RNA, durga modulates dendrite density and expression of kalirin in Zebrafish](#); Frontiers in molecular neuroscience; 10; ; 95; 2017
19. Roshan, Reema; Choudhary, Ashwani; Bhambri, Aksheev; Bakshi, Bhawani; Ghosh, Tanay; **Pillai, Beena***; [microRNA dysregulation in polyglutamine toxicity of TATA-box binding protein is mediated through STAT1 in mouse neuronal cells](#); Journal of neuroinflammation; 14; 1; 155; 2017
20. Bhambri, Aksheev; Dhaunta, Neeraj; Patel, Surendra Singh; Hardikar, Mitali; Srikakulam, Nagesh; Shridhar, Shruti; Vellarikkal, Shamsudheen; Suryawanshi, Hemant; Pandey, Rajesh; Jayarajan, Rijith; Verma, Ankit; Kumar, Vikram; Bhatt, Abhishek; Gautam, Pradeep; Rai, Manish; Khan, Jameel Ahmed; Fromm, Bastian; Peterson, Kevin J; Scaria, Vinod; Sivasubbu, Sridhar; **Pillai,**

- Beena*** [Insights into regeneration from the genome, transcriptome and metagenome analysis of *Eisenia fetida*](#); bioRxiv; 180612; 2017
21. Sharma, Shweta; Hussain, Showket; Soni, Kartik; Singhal, Pallavi; Tripathi, Richa; Ramachandran, VG; Sharma, Sonal; Das, Shukla; **Pillai, Beena**; Bharadwaj, Mausumi*; [Novel MicroRNA signatures in HPV-mediated cervical carcinogenesis in Indian women](#); Tumor Biology; 37; 4; 4585-4595; 2016
 22. Dey, Rakesh; Soni, Kartik; Saravanan, Shanmugam; Balakrishnan, Pachamuthu; Kumar, Vikram; Boobalan, Jayaseelan; Solomon, Sunil Suhas; Scaria, Vinod; Solomon, Suniti; Brahmachari, Samir K; **Pillai, Beena***; [Anti-HIV microRNA expression in a novel Indian cohort](#); Scientific reports; 6; ; 28279; 2016
 23. Dhamija, Neeru; Choudhary, Deepika; Ladha, Jayashree S; **Pillai, Beena**; Mitra, Debashis; [Tat predominantly associates with host promoter elements in HIV1 infected Tcells—regulatory basis of transcriptional repression of c?Rel](#); The FEBS journal; 282; 3; 595-610; 2015
 24. Dey, R; **Pillai, Beena**; [Cell-based gene therapy against HIV](#); Gene therapy; 22; 11; 851; 2015
 25. Suryawanshi, Hemant; Sarangdhar, Mayuresh Anant; Vij, Manika; Roshan, Reema; Singh, Vijay Pal; Ganguli, Munia; **Pillai, Beena***; [A Simple Alternative to Stereotactic Injection for Brain Specific Knockdown of miRNA](#); Journal of visualized experiments: JoVE; ; 106; ; 2015
 26. Agarwal, Parul; Garg, Varsha; Gautam, Taru; **Pillai, Beena**; Kanoria, Shaveta; Burma, Pradeep Kumar; [A study on the influence of different promoter and 5' UTR \(URM\) cassettes from Arabidopsis thaliana on the expression level of the reporter gene beta glucuronidase in tobacco and cotton](#); Transgenic research; 23; 2; 351-363; 2014
 27. Iyengar, Bharat Ravi; Choudhary, Ashwani; Sarangdhar, Mayuresh Anant; Venkatesh, KV; Gadgil, Chetan J; **Pillai, Beena***; [Non-coding RNA interact to regulate neuronal development and function](#); Frontiers in cellular neuroscience; 8; ; 47; 2014
 28. Roshan, Reema; Shridhar, Shruti; Sarangdhar, Mayuresh A; Banik, Arpita; Chawla, Mrinal; Garg, Manali; Singh, Vijay Pal; **Pillai, Beena***; [Brain-specific knockdown of miR-29 results in neuronal cell death and ataxia in mice](#); RNA; 20; 8; 1287-1297; 2014
 29. Walawalkar, Yogesh D; Phadke, Ravindra; Noronha, Santosh; Patankar, Swati; **Pillai, Beena**; [Engineering whole-cell biosensors to evaluate the effect of osmotic conditions on bacteria](#); Annals of microbiology; 63; 4; 1283-1290; 2013
 30. Soni, Kartik; Choudhary, Ashwani; Patowary, Ashok; Singh, Angom Ramcharan; Bhatia, Shipra; Sivasubbu, Sridhar; Chandrasekaran, Shanti; **Pillai, Beena***; [miR-34 is maternally inherited in Drosophila melanogaster and Danio rerio](#); Nucleic acids research; 41; 8; 4470-4480; 2013
 31. Jovicic Ana; Roshan, Reema; Moiso, Nicoleta; Pradervand, Sylvain; Moser, Roger; **Pillai, Beena***; Luthi-Carter, Ruth*; [Comprehensive expression analyses of neural cell-type-specific miRNAs identify new determinants of the specification and maintenance of neuronal phenotypes](#); Journal of Neuroscience; 33; 12; 5127-5137; 2013
 32. Soni, Kartik; Gupta, Shivani; Gokhale, Sachin S; Dey, Rakesh; Gunjal, Anita D; Kumar, Vijayanti A; **Pillai, Beena***; [Detection and knockdown of microRNA-34a using thioacetamido nucleic acid](#); Nucleic acid therapeutics; 23; 3; 195-202; 2013

33. Pore, Subrata Kumar; Choudhary, Ashwani; Rathore, Bhowmira; Ganguly, Anirban; Sujitha, Pombala; Kumar, C Ganesh; Agawane, Sachin Bharat; Kumar, Jerald Mahesh; Scaria, Vinod; **Pillai, Beena**; Banerjee Rajkumar* [Hsp90-targeted miRNA-liposomal formulation for systemic antitumor effect](#); Biomaterials; 34; 28; 6804-6817; 2013
34. Roshan, Reema; Ghosh, Tanay; Gadgil, Mugdha; **Pillai, Beena***; [Regulation of BACE1 by miR-29a/b in a cellular model of Spinocerebellar Ataxia 17](#); RNA biology; 9; 6; 891-899; 2012
35. Bargaje, Rhishikesh; Alam, Mohammad Parwez; Patowary, Ashok; Sarkar, Maharnob; Ali, Tamer; Gupta, Shivani; Garg, Manali; Singh, Meghna; Purkanti, Ramya; Scaria, Vinod; Sivasubbu, Sridhar; Brahmachari, Vani; **Pillai Beena***; [Proximity of H2A. Z containing nucleosome to the transcription start site influences gene expression levels in the mammalian liver and brain](#); Nucleic acids research; 40; 18; 8965-8978; 2012
36. Bargaje, Rhishikesh; Gupta, Shivani; Sarkeshik, Ali; Park, Robin; Xu, Tao; Sarkar, Maharnob; Halimani, Mahantappa; Roy, Soumya Sinha; Yates, John*; **Pillai, Beena***; [Identification of novel targets for miR-29a using miRNA proteomics](#); PLoS One; 7; 8; e43243; 2012
37. Khan, Jameel Ahmad; Mandal, Tarun Kumar; Das, Taposh Kumar; Singh, Yogendra; **Pillai, Beena**; Maiti, Souvik*; [Magnetite \(Fe 3 O 4\) nanocrystals affect the expression of genes involved in the TGF-beta signalling pathway](#); Molecular BioSystems; 7; 5; 1481-1486; 2011
38. Gokhale, Sucheta A; Roshan, Reema; Khetan, Vivek; Pillai, Beena; Gadgil, Chetan J*; [A kinetic model of TBP auto-regulation exhibits bistability](#); Biology direct; 5; 1; 50; 2010
39. Roshan, Reema; Ghosh, Tanay; Scaria, Vinod; **Pillai, Beena***; [MicroRNAs: novel therapeutic targets in neurodegenerative diseases](#); Drug discovery today; 14; 23-24; 1123-1129; 2009
40. Bargaje, Rhishikesh; Hariharan, Manoj; Scaria, Vinod; **Pillai, Beena***; [Consensus miRNA expression profiles derived from interplatform normalization of microarray data](#); RNA; 2009
41. Ahluwalia, Jasmine K; Hariharan, Manoj; Bargaje, Rhishikesh; **Pillai, Beena**; Brahmachari, Vani*; [Incomplete penetrance and variable expressivity: is there a microRNA connection?](#); Bioessays; 31; 9; 981-992; 2009
42. Ahluwalia, Jasmine K; Khan, Sohrab Zafar; Soni, Kartik; Rawat, Pratima; Gupta, Ankit; Hariharan, Manoj; Scaria, Vinod; Lalwani, Mukesh; **Pillai, Beena**; Mitra, Debashis; Brahmachari SK* [Human cellular microRNA hsa-miR-29a interferes with viral nef protein expression and HIV-1 replication](#); Retrovirology; 5; 1; 117; 2008
43. Ghosh, Tanay; Soni, Kartik; Scaria, Vinod; Halimani, Mahantappa; Bhattacharjee, Chaitali; **Pillai, Beena***; [MicroRNA-mediated up-regulation of an alternatively polyadenylated variant of the mouse cytoplasmic beta-actin gene](#); Nucleic acids research; 36; 19; 6318-6332; 2008
44. Sandhu, Kuljeet Singh; Pandey, Sunil; Maiti, Souvik; **Pillai, Beena***; [GASCO: genetic algorithm simulation for codon optimization](#); In silico biology; 8; 2; 187-192; 2008
45. Khan, Jameel Ahmad; **Pillai, Beena**; Das, Taposh Kumar; Singh, Yogendra; Maiti, Souvik; [Molecular effects of uptake of gold nanoparticles in HeLa cells](#); Chembiochem; 8; 11; 1237-1240; 2007
46. Scaria, Vinod; Hariharan, Manoj; **Pillai, Beena**; Maiti, Souvik; Brahmachari, Samir K*; [Host-virus genome interactions: macro roles for microRNAs](#); Cellular microbiology; 9; 12; 2784-2794; 2007

47. Scaria, Vinod; Hariharan, Manoj; Brahmachari, Samir K; Maiti, Souvik; **Pillai, Beena***; [microRNA: an emerging therapeutic; ChemMedChem: Chemistry Enabling Drug Discovery](#); 2; 6; 789-792; 2007
48. Singh, Sunanda R; **Pillai, Beena**; Balakrishnan, Bindu; Naorem, Aruna; Sadhale, Parag P*; [Relative levels of RNA polII subunits differentially affect starvation response in budding yeast](#); Biochemical and biophysical research communications; 356; 1; 266-272; 2007
49. Ghosh, Tanay; Pandey, Neeraj; Maitra, Arindam; Brahmachari, Samir K; **Pillai, Beena***; [A role for voltage-dependent anion channel Vdac1 in polyglutamine-mediated neuronal cell death](#); PLoS One; 2; 11; e1170; 2007
50. Venkatesh, P; Jaiprakash, M; Prasad, P; **Pillai, Beena**; Sadhale, PP*; Sinkare, VP*; Flavonoid biosynthesis in tea (Camellia sinensis); 2007
51. Scaria, Vinod; Hariharan, Manoj; Maiti, Souvik; **Pillai, Beena**; Brahmachari, Samir K*; [Host-virus interaction: a new role for microRNAs](#); Retrovirology; 3; 1; 68; 2006
52. Kumar, Arun; John, Lijo; Alam, Md Mahmood; Gupta, Ankit; Sharma, Gayatri; **Pillai, Beena**; Sengupta, Shantanu*; [Homocysteine-and cysteine-mediated growth defect is not associated with induction of oxidative stress response genes in yeast](#); Biochemical journal; 396; 1; 61-69; 2006
53. Harish, Nagarajan; Gupta, Rekha; Agarwal, Parul; Scaria, Vinod; **Pillai, Beena***; [DyNAVacS: an integrative tool for optimized DNA vaccine design](#); Nucleic acids research; 34; suppl_2; W264-W266; 2006
54. Hariharan, Manoj; Scaria, Vinod; **Pillai, Beena**; Brahmachari, Samir K*; [Targets for human encoded microRNAs in HIV genes](#); Biochemical and biophysical research communications; 337; 4; 1214-1218; 2005
55. John, Lijo; Sharma, Gayatri; Chaudhuri, Santanu Pal; **Pillai, Beena***; [Cigarette smoke extract induces changes in growth and gene expression of Saccharomyces cerevisiae](#); Biochemical and biophysical research communications; 338; 3; 1578-1586; 2005
56. Banerjee, Dibyendu; **Pillai, Beena**; Karnani, Neerja; Mukhopadhyay, Gauranga; Prasad, Rajendra*; [Genome-wide expression profile of steroid response in Saccharomyces cerevisiae](#); Biochemical and biophysical research communications; 317; 2; 406-413; 2004
57. Singh, Sunanda R; Rekha, Nambudiry; **Pillai, Beena**; Singh, Vijender; Naorem, Aruna; Sampath, Vinaya; Srinivasan, N; Sadhale, Parag P*; [Domainal organization of the lower eukaryotic homologs of the yeast RNA polymerase II core subunit Rpb7 reflects functional conservation](#); Nucleic acids research; 32; 1; 201-210; 2004
58. Jaiprakash, Maya Rani; **Pillai, Beena**; Venkatesh, Purna; Subramanian, N; Sinkar, Vilas P; Sadhale, Parag P*; [RNA isolation from high-phenolic freeze-dried tea \(Camellia sinensis\) leaves](#); Plant Molecular Biology Reporter; 21; 4; 465-466; 2003
59. **Pillai, Beena**; Verma, Jiyoti; Abraham, Anju; Francis, Princy; Kumar, Yadunanda; Tatu, Utpal; Brahmachari, Samir K; Sadhale, Parag P*; [Whole genome expression profiles of yeast RNA polymerase II core subunit, Rpb4, in stress and non-stress conditions](#); Journal of Biological Chemistry; 278; 5; 3339-3346; 2003

60. **Pillai, Beena**; Sampath, Vinaya; Sharma, Nimisha; Sadhale, Parag*; [Rpb4, a Non-essential Subunit of Core RNA Polymerase II of Saccharomyces cerevisiae Is Important for Activated Transcription of a Subset of Genes](#); Journal of Biological Chemistry; 276; 33; 30641-30647; 2001
61. **Pillai, Beena**; Brahmachari, Samir K; Sadhale, Parag P*; [Genome-wide expression profile of RNA polymerase II subunit mutant of yeast using microarray technology](#); Current Science 81; 5; 574-577; 2001

Book Chapters:

1. Dheeraj Chandra Joshi, Surendra Singh Patel, Beena Pillai, Transcriptome Profiling, Spatial Transcriptomics, 2022, 1 st ed., Chap. 7 (ISBN 978-0-323-91810-7)
2. Beena Pillai and Mayuresh Sarangdhar, "MicroRNA: Perspectives in Health and Diseases" (2017) ed. J. Paul and R. Muthuswamy, in press, CRC press Taylor and Francis group, 2017
3. Beena Pillai, "Non-coding RNA" in Gene and its Engineering, (2015) ed. H. K. Das, Wiley Publications
4. Mitali Mukerji, Beena Pillai, Somdatta Sinha & S. K. Brahmachari. Textbook of Biotechnology, (2005) ed. H. K. Das, Wiley Publications, Specific contribution: Contributed the section titled "Functional genomics using Microarray Technology". Currently in the 5th ed.

Patents:

Human microRNA targets in HIV genome and a method of identification thereof. Samir Kumar Brahmachari, Manoj Hariharan, Vinod Scaria, Beena Pillai. US 7825230 B2/Grant/App. No. US 11/545,280; Publication date: 2 Nov 2010; Priority date: 10 Oct 2005 (US patent Office)

(Also published as patents in other locations: CA2625731A1, EP1943340A2, US20070087335, WO2007042899A2, WO2007042899A3, WO2007042899B1)

Non-SCI publications:

1. She is a scientist. Invited article in Indian Express about bringing equity to scientific research in India. In print version on October 6, 2020; electronic version: [click here](#)
2. REDUCE: development of a vermicomposting solution for urban household waste.
3. Editing our own genes. Beena Pillai and Monisha K. M. TRUMP magazine.
4. Venkatesh P, Jaiprakash M, Prasad P, Pillai Beena, Sadhale PP, Sinkar VP. (2015) Flavonoid biosynthesis in tea (Camellia sinensis). International Journal of Tea Science : 6
5. Aditya A, Bhattacharya A, Singh A, Pande A, Ray A, Ghosh A, Mehani B, Kumar B, Paul D, Suneja G. REDUCE- development of a vermicomposting solution for urban household waste.

Reviewer for:

- **Journals:** iScience, Nucleic Acids Research, Frontiers in Molecular Neuroscience, Journal of Genetics, Molecular Biology of the Cell (MBoC), RNA, Comparative Biochemistry and Physiology, Cellular and Molecular Neurobiology, Scientific Reports.
- **Funding Agencies:** Human Frontier Science Program, Dept. of Science and Technology, India; Dept. of Biotechnology, India; Department of Biotechnology, West Bengal; Kerala State Council for Science, Technology & Environment.

- **Universities (Thesis review):** Jawaharlal Nehru University, Delhi; Rajiv Gandhi Centre of Biotechnology, Thiruvananthapuram; Delhi University, EPFL | École polytechnique fédérale de Lausanne, University of Pune, IIT, Delhi

Major Grants:

Start Date dd/mm/yyyy	Duration (months)	Amount (INR- Lakhs)	Title	Source	Role	Type /Scheme
17/07/2020	36	60	In vivo RNAi mediated intervention in the neuroinflammation pathway for development of therapeutic strategy	CSIR	PI	MLP
15-07-2021	24	90	Study of the potential role of parentally inherited non-coding RNA as cell division counters during early embryonic development in zebrafish.	CSIR	PI	FIRST
29/03/2018	60	62	Population based-research studies to understand disease dynamics towards effective management of prevention and treatment of HIV/AIDS, including co-morbidities and co-infections.	DBT	Co-PI	EMR
29/03/2017	36	54	Role of interferon mediated microRNA regulation in neurodegenerative diseases	DST	PI	EMR; ongoing
01/09/2014	24	17	Study of the molecular basis of the choice between miRNA mediated translational suppression and RNA instability in neural cell types.	DST	PI	Bilateral
01/09/2013	36	15	RNA-RNA interaction map of zebrafish oocytes	DST	PI	SERB Award
01/04/2012	60	100	RNA based modules and parts for synthetic biology: Development of inter-operable parts for synthetic biology using artificial regulatory small RNAs.	CSIR	CSIR	Network
01/01/2012	60	149	The search for nerve regeneration factor in Earthworms	CSIR	PI	EMPOWER
01/05/2011	24	30	Characterization of brain specific nucleosome positioning	CSIR	Co-PI	EMPOWER
01/04/2007	60	450	Comparative Genomics of ncRNA	CSIR	PI	Network

Ph. D guided: 15 students have completed their doctoral research; recognized by University of Pune (till 2011) and AcSIR (since 2011); Currently mentor for 6 Ph.D students

	Name of Student	Year of Ph.D Awarded	University	Title of thesis
1	Tanay Ghosh	2008	University of Pune	Study Of The Transcriptional Basis Of Neuronal Function And Dysfunction
2	Rhishikesh Bargaje	2011	University of Pune	Integrated analysis of gene expression by correlating the transcriptome and miRNome and proteome.
3	Kartik Soni	2012	University of Pune	Mechanism of microRNA Mediated Regulation of Gene Expression: Development and Disease
4	Reema Roshan	2013	University of Pune	Functional studies on transcriptional defects associated with polyglutamine expansion in TATA box binding protein and its cellular effects
5	Nadeem Sheikh	2013	University of Pune	Study of neuronal gene regulation by genome analysis
6	Ashwini Choudhary	2014	University of Pune	Role of microRNA mediated gene regulation in Neurogenesis and Neurodegeneration
7	Bharat Ravi Iyengar	2017	IIT, Mumbai	Experimental and mathematical analysis of miRNA mediated gene regulatory network motifs
8	Mayuresh Sarangdhar	2018	AcSIR	Regulation of Gene Expression in Neurogenesis and Neural Cell Specification (Awarded best Thesis in AcSIR)
9	Rakesh Dey	2018	AcSIR	Role of miRNA in HIV-1 disease progression
10	Shivani Gupta	2018	AcSIR	Role of histones and histone variants in neurogenesis
11	Aksheev Bhambri	2020	AcSIR	Understanding Inter and Intra-cellular signaling in polyglutamine disease
12	Divya Chaubey	2023	AcSIR	Role of long non-coding RNA Durga In neuronal morphology and function
13	Surendra Singh Patel		AcSIR	Identification and Characterization of factors involved in nerve regeneration from <i>Eisenia fetida</i>
14	Dheeraj Chandra Joshi	2024	AcSIR	Genome wide impact of long non-coding RNAs
15	Muneesh Pal	2024	AcSIR	Role of non-coding RNAs derived from the Kalrn Locus in the mammalian brain
*Co-guide with Chetan Gadgil, NCL, Pune and K. V. Venkatesh, IIT, Mumbai				

Number of current Ph.D students: 6 students are currently working on their doctoral theses.

Post Doctoral Research Mentor (recent/ long-term):

Arpita Konar (Currently Assistant Prof. Presidency University) completed INSPIRE Faculty Fellowship
 Nabeel Ahmed (Currently working in the Industry) completed 2 year post-doctoral training
 Anita Kumari (Currently working in a CSIR project)

Teaching:

- Developed the contents of a 2 credit (30 lectures in one semester) course titled, "Time and Space

in Biological Systems" and taught the same for 6 years. Consistently received excellent student feedback. The course covers topics like circadian rhythms, animal coat patterns, learning to juxtapose biological evidence with underlying theoretical models and the relevance of gene regulatory network motifs.

- Developed short modules on "Microarray Data Analysis", "Case studies on plagiarism" to improve student awareness and "The utility of model organisms in biology". The last module is designed around my experience of working with diverse model organisms including yeast, zebrafish, mouse, cell lines and clinical samples.

Science Communication and Outreach:

- Currently member of Planning and steering committee of National Science Centre, New Delhi.
- Designed and conducted hands-on workshops for school children as part of the outreach activity of CSIR-Institute of Genomics and Integrative Biology since 2012. Involved in developing booklets, 3D displays and toys for popularizing science at school level.
- Member of Annual Report Committee of CSIR-Institute of Genomics and Integrative Biology since 2007.
- Lead, Committee for institutional image management at IGIB: This involves coordinating with colleagues and producing website updates, reports, annual calendar and other material that communicates science to lay audience.

Personal Details:

- Date of Birth: 09-12-1974
- Nationality: Indian | Marital Status: Married