

## Sanjeev Galande

**Professor and Dean**  
**School of Natural Sciences**  
**Shiv Nadar University, Delhi NCR**  
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### Academic Record:

<u>Name of the Institution</u>	<u>Duration of Stay</u>	<u>Principle subjects</u>	<u>Degree Awarded</u>
Indian Institute Of Science	1989-1995	Biochemistry and Molecular Biology	Ph.D
University of Poona	1987-1989	Biotechnology	M.Sc.
Sir Parashurambhau College	1984-1987	Zoology	B.Sc.

### Professional Experience:

Professor and Dean	June 2021 – Till date	Shiv Nadar University, Delhi NCR
Professor	May 2010-May 2021	Indian Institute of Science Education and Research, Pune
Scientist F	April 2007- April 2010	National Centre for Cell Science NCCS complex, Pune, India
Scientist E	April 2004-March 2007	National Centre for Cell Science NCCS complex, Pune, India
Scientist D	March 2001-March 2004	National Centre for Cell Science NCCS complex, Pune, India
Postdoctoral Fellow	Oct. 1996-Feb. 2001	Lawrence Berkeley National Laboratory University of California Berkeley, CA, USA
Postdoctoral Fellow	Feb. 1996-Sept. 1996	The Burnham Institute La Jolla Cancer Research Center, USA

### Memberships in Professional Society:

1. Elected member of the American Association for Cancer Research, 1999.
2. Member of American Society for Microbiology (ASM), 2005-2010.
3. Fellow of the Indian Academy of Sciences, Bangalore, 2010.
4. Fellow of the Indian National Science Academy, 2012.
5. Fellow of the National Academy of Sciences, 2017

### Awards:

1. Recipient of the '*JC Bose Fellowship-2019*' from DST-SERB.
2. Recipient of the '*GD Birla Award-2014*' for Scientific Excellence from the KK Birla Foundation, New Delhi.
3. Recipient of the '*Shantiswaroop Bhatnagar Award-2010*' from the Council of Scientific and Industrial Research (CSIR).
4. Recipient of the '*Swarnajayanti Fellowship-2007*' from the Department of Science and Technology (DST).
5. Recipient of the '*National Bioscience Award for Career Development-2006*' from the Department of Biotechnology (DBT).

### Publications:

\*Equal contribution

#Corresponding author

1. Sharma A., Dsilva G.J., Deshpande G. # and **Galande S.** # 2024. Exploring the Versatility of Zygotic Genome Regulators: A Comparative and Functional Analysis. *Cell Reports* 43(9): 1-15. <https://doi.org/10.1016/j.celrep.2024.114680>.
2. Tripathi S.\*, Gupta E.\*, **Galande, S.** # 2024. Statins as anti-tumor agents: A paradigm for repurposed drugs. *Cancer Reports* 7:e2078. <https://doi.org/10.1002/cnr2.2078>.
3. Sawant, A.A., Tripathi S., **Galande, S.** and Sudha Rajamani.# 2024. A Prebiotic Genetic Nucleotide as an Early Darwinian Ancestor for Pre-RNA Evolution. *ACS Omega* <https://doi.org/10.1021/acsomega.3c09949>.
4. Dsilva G J and **Galande S.** # 2024. From Sequence to Consequence: Deciphering the Complex cis-regulatory landscape. *J Biosciences* 49:46. DOI: 10.1007/s12038-024-00431-0.

5. Suresh V., Bhattacharya, B., Tshuva, R. Y., Gotthold, M. D., Olender, T., Bose, M., Pradhan, S. J., Zeev, B. B., Smith, R. S., Tole, S., **Galande, S.**, Harwell, C., Baizabal, J. M., Reiner, O. # 2024. PRDM16 co-operates with LHX2 to shape the human brain *Oxford Open Neuroscience* 3:1-16. <https://doi.org/10.1093/oons/kvae001>.
6. Dandia H. Y., Pillai, M. M., Sharma, D., Suvarna, M., Dalal, N., Madhok, A., Ingle, A., Chiplunkar, S. V., **Galande, S.** and Tayalia, P. # 2024. Acellular scaffold-based approach for in situ genetic engineering of host T-cells in solid tumor immunotherapy. *Military Medical Research* 11:3. <https://doi.org/10.1186/s40779-023-00503-6>.
7. Suresh V. \*, Muralidharan, B. \*, Pradhan, S. J. \*, Bose, M., D'Souza, L., Parichha, A., Reddy, P. C., **Galande, S.** # and Tole, S. # 2023. Regulation of chromatin accessibility and gene expression in the developing hippocampal primordium by LIM-HD transcription factor LHX2. *PLoS Genetics* 19(8):e1010874.doi: 10.1371/journal.pgen.1010874.
8. Mahajan S., Sen S., Sunil A., Srikanth P., Marathe S.D, Shaw K., Sahare M., **Galande S.** #, and Abraham N.A.# 2023. Knockout of ACE2 receptors lead to morphological aberrations in rodent olfactory centers and dysfunctions associated with sense of smell. *Frontiers in Neuroscience*, 17:1180868. doi: 10.3389/fnins.2023.1180868
9. Gungi, A., Saha, S., Pal, M. and **Galande, S.** #, 2023. H4K20me1 plays a dual role in transcriptional regulation of regeneration and axis patterning in Hydra. *Life Science Alliance*, 6(5).
10. Chee, J.M., Lanoue, L., Clary, D., Higgins, K., Bower, L., Flenniken, A., Guo, R., Adams, D.J., Bosch, F., Braun, R.E., Brown, S.D., H.-J. Genie Chin, Dickinson, M.E., Hsu C.-W., Dobbie M., Gao X., **Galande S.**, Grobler A., Heaney J.D., Herault Y., de Angelis M.H., Mammano F., Nutter L.M.J., Parkinson H., Qin C., Shiroishi T., Sedlacek R., Seong J.-K., Xu Y., The International Mouse Phenotyping Consortium, Brooks B., McKerlie C., Lloyd K.C.K., Westerberg H. and Moshiri A. 2023. Genome-wide screening reveals the genetic basis of mammalian embryonic eye development. *BMC Biology*, 21(1), pp.1-15.
11. O'Rourke, M.B., Januszewski, A.S., Sullivan, D.R., Lengyel, I., Stewart, A.J., Arya, S., Ma, R.C., **Galande, S.**, Hardikar, A.A., Joglekar, M.V. and Keech, A.C., Jenkins A.J., Molloy M. P., 2023. Optimised plasma sample preparation and LC-MS analysis to support large-scale proteomic analysis of clinical trial specimens: Application to the Fenofibrate Intervention and Event Lowering in Diabetes (FIELD) trial. *PROTEOMICS–Clinical Applications*, 17(3), p.2200106.
12. Khare, S.P. \*, Madhok, A. \*, Patta, I., Sukla, K.K., Wagh, V.V., Kunte, P.S., Raut, D., Bhat, D., Kumaran, K., Fall, C. and Tatu, U., Chandak G.R., Yajnik C. S. #, **Galande, S.** # 2023. Differential expression of genes influencing mitotic processes in

- cord blood mononuclear cells after a pre-conceptional micronutrient-based randomised controlled trial: Pune Rural Intervention in Young Adolescents (PRIYA). *Journal of Developmental Origins of Health and Disease*, 14: 437–448. doi: 10.1017/S204017442200068X
13. Higgins, K., Moore, B.A., Berberovic, Z., Adissu, H.A., Eskandarian, M., Flenniken, A.M., Shao, A., Imai, D.M., Clary, D., Lanoue, L. and Newbigging, S., Nutter L.M.J., Adams D.J., Bosch F., Braun R.E, Brown S.D.M., Dickinson M.E., Dobbie M., Flicek P., Gao X., **Galande S.**, Grobler A., Heaney J.D., Herault Y., de Angelis M.H., Chin H.-J. G., Mammano F., Qin C., Shiroishi T, Sedlacek R., Seong J.-K., Xu Y., The IMPC Consortium, Lloyd K.C.K., McKerlie C., and Moshiri A. 2022. Analysis of genome-wide knockout mouse database identifies candidate ciliopathy genes. *Scientific Reports*, 12(1), p.20791.
  14. Shetty A\*, Tripathi SK\*, Junttila S\*, Buchacher T\*, Biradar R, Bhosale SD, Envall T, Laiho A, Moulder R, Rasool O, **Galande S**, Elo LL<sup>#</sup>, and Lahesmaa R<sup>#</sup>. (2022) A systematic comparison of FOSL1, FOSL2 and BATF-mediated transcriptional regulation during early human Th17 differentiation *Nucleic Acids Res* 50:4938–4958, <https://doi.org/10.1093/nar/gkac256>. PMID: 35511484.
  15. Pradhan SJ, Reddy PC, Smutny M, Sharma A, Sako K, Oak MS, Shah R, Pal M, Deshpande O, Dsilva G, Tang Y, Mishra R, Deshpande G, Giraldez AJ, Sonawane M, Heisenberg CP<sup>#</sup>, **Galande S<sup>#</sup>**. (2021) Satb2 acts as a gatekeeper for major developmental transitions during early vertebrate embryogenesis. *Nat Commun*. 12:6094. doi: 10.1038/s41467-021-26234-7. PMID: 34667153
  16. Pandit P, **Galande S<sup>#</sup>**, Iris F. (2021) Maternal malnutrition and anaemia in India: dysregulations leading to the 'thin-fat' phenotype in newborns. *J Nutr Sci*. 10:e91. doi: 10.1017/jns.2021.83. eCollection 2021. PMID: 34733503
  17. Unni M, Reddy PC, Pal M, Sagi I, **Galande S<sup>#</sup>**. (2021) Identification of Components of the Hippo Pathway in Hydra and Potential Role of YAP in Cell Division and Differentiation. *Front Genet*. 12:676182. doi: 10.3389/fgene.2021.676182. eCollection 2021. PMID: 34691138.
  18. Shetty A, Bhosale SD, Tripathi SK, Buchacher T, Biradar R, Rasool O, Moulder R, **Galande S**, Lahesmaa R. (2021) Interactome Networks of FOSL1 and FOSL2 in Human Th17 Cells. *ACS Omega*. 6:24834–24847. doi: 10.1021/acsomega.1c03681. eCollection 2021 Sep 28. PMID: 34604665
  19. Sharma A, Mir R, **Galande S<sup>#</sup>**. (2021) Epigenetic Regulation of the Wnt/ $\beta$ -Catenin Signaling Pathway in Cancer. *Front Genet*. 12:681053. doi: 10.3389/fgene.2021.681053. eCollection 2021. PMID: 34552611

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21. Shah R, Sharma A\*, Kelkar A\*, Sengupta K, and **Galande S<sup>#</sup>**. 2021. A novel cis regulatory element regulates human XIST in CTCF-dependent manner. *Mol Cell Biol*, 41(8):e0038220. doi: 10.1128/MCB.00382-20DOI: https://doi.org/10.1128/MCB.00382-20
22. Pillai, A.\*, Gungi, A.\*, Reddy P.C.<sup>#</sup> and **Galande, S.<sup>#</sup>**, 2021. Epigenetic regulation in Hydra: conserved and divergent roles. *Frontiers in Cell and Developmental Biology*, 9, p.1155.
23. Ramanujam, P. L. \*, Mehrotra, S. \*, Kumar, R. P., Verma, S., Deshpande, G., Mishra, R. K. <sup>#</sup>, & **Galande, S<sup>#</sup>** (2021). Global chromatin organizer SATB1 acts as a context-dependent regulator of the Wnt/Wg target genes. *Scientific Reports*, 11(1), 3385. doi: 10.1038/s41598-021-81324-2.
24. Reddy, PC\*, Gungi A\*, Ubhe, S, and **Galande S<sup>#</sup>** (2020) Epigenomic landscape of enhancer elements during *Hydra* head organizer formation. *Epigenetics and Chromatin* Oct 12;13(1):43. doi: 10.1186/s13072-020-00364-6. PMID: 33046126
25. Naik S\*, Unni M\*, Sinha D, Rajput SS, Reddy PC, Kartvelishvily E, Solomonov E, Sagi I, Chatterji A, Patil S<sup>#</sup> and **Galande S<sup>#</sup>**. (2020) Differential tissue stiffness of body column facilitates locomotion of Hydra on solid substrates. *J Exp. Biol.* Oct 29;223(Pt 20):jeb232702. doi: 10.1242/jeb.232702. PMID: 32958523.
26. Mehrotra S<sup>#</sup>, Bansal P, Oli N, Jayarajan S and **Galande S.** (2020) Defective Proventriculus regulates cell specification in the gastric region of *Drosophila* intestine. *Frontiers in Physiology* Jul 14;11:711. doi: 10.3389/fphys.2020.00711. eCollection 2020. PMID: 32760283.
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28. Lloyd KCK, Adams DJ, Baynam G, Beaudet AL, Bosch F, Boycott KM, Braun RE, Caulfield M, Cohn R, Dickinson ME, Dobbie MS, Flenniken AM, Flicek P, **Galande S**, Gao X, Grobler A, Heaney JD, Herault Y, de Angelis MH, Lupski JR, Lyonnet S, Mallon AM, Mammano F, MacRae CA, McInnes R, McKerlie C, Meehan TF, Murray SA, Nutter LMJ, Obata Y, Parkinson H, Pepper MS, Sedlacek R, Seong JK, Shiroishi T, Smedley D, Tocchini-Valentini G, Valle D, Wang CL, Wells S, White J,

- Wurst W, Xu Y, Brown SDM. (2020) The Deep Genome Project. *Genome Biol.* 21:18. doi: 10.1186/s13059-020-1931-9.
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  30. Narlikar G, **Galande S**. Topical collection on Chromatin Biology and Epigenetics. *J Biosci.* 45. pii: 1.
  31. Reddy PC, Gungi A, Ubhe S, Pradhan SJ, Kolte A, **Galande S<sup>#</sup>**. (2019) Molecular signature of an ancient organizer regulated by Wnt/ $\beta$ -catenin signalling during primary body axis patterning in Hydra. *Commun Biol.* 2:434. doi: 10.1038/s42003-019-0680-3. eCollection 2019.
  32. Khare SP, Shetty A, Biradar R, Patta I, Sathe A, Reddy PC, Chen Z, Lahesmaa R and **Galande S<sup>\*</sup>**. (2019) NF- $\kappa$ B signaling and IL-4 signaling regulate SATB1 expression via alternative promoter usage during Th2 differentiation. *Frontiers in Immunology* 10:667. doi: 10.3389/fimmu.2019.00667. eCollection 2019.
  33. Muley VY<sup>#</sup>, Akhter Y, and **Galande S<sup>#</sup>**. (2019) PDZ domains across the microbial world: molecular link to the proteases, stress response and protein synthesis. *Genome Biology and Evolution*;11:644-659. doi: 10.1093/gbe/evz023.
  34. Tripathi ST<sup>\*</sup>, Välikangas T<sup>\*</sup>, Shetty A<sup>\*</sup>, Khan MM, Bhosale SD, Moulder R, Komsí E, Salo V, Albuquerque RSD, Rasool O, **Galande S**, Elo LE<sup>#</sup>, and Lahesmaa R<sup>#</sup>. (2019) Quantitative mass spectrometry-based proteomics reveals the dynamic protein landscape during initiation of human Th17 cell polarization. *iScience*;11:334-355. doi: 10.1016/j.isci.2018.12.020. Epub 2018 Dec 26.
  35. Balyan R, Gund R, Chawla AS, Khare SP, Pradhan SJ, Rane S, **Galande S**, Durdik JM, George A, Bal A and Rath S. (2019) Correlation of Cell-Surface CD8 Levels with Function, Phenotype and Transcriptome of Naive CD8 T Cells. *Immunology*;156:384-401. doi: 10.1111/imm.13036. Epub 2019 Jan 13.
  36. Naik R and **Galande S<sup>#</sup>**. (2018) SATB family chromatin organizers as master regulators of tumor progression. *Oncogene* 38:1989-2004.
  37. Mir R, Sharma A, Pradhan SJ, **Galande S<sup>#</sup>**. (2018) Regulation of transcription factor SP1 by  $\beta$ -catenin destruction complex modulates Wnt response. *Mol Cell Biol* 38:pii: e00188-18. doi: 10.1128/MCB.00188-18. Print 2018 Nov 15.
  38. Jangid RK, Kelkar A, Muley VY, **Galande S<sup>#</sup>**. (2018) Bidirectional promoters exhibit characteristic chromatin modification signature associated with transcription elongation in both sense and antisense directions. *BMC Genomics.* 19:313.

39. Manjunath GP\*, Ramanujam PL\*, and **Galande S<sup>#</sup>**. (2018) Structure function relations in PDZ domain containing proteins: implications for protein networks in cellular signaling. *J. Biosci.* 43:155-171.
40. Sawant AA, **Galande S**, Srivatsan SG. (2018) Imaging Newly Transcribed RNA in Cells by Using a Clickable Azide-Modified UTP Analog. *Methods Mol Biol.* 1649:359-371.
41. Muralidharan B, Keruzore M, Pradhan S, Roy B, Shetty A, Kinare A, D'souza L, Maheshwari U, Karmodiya K, Suresh A, **Galande S**, Bellefroid E, and Tole S. (2017) Dmrt5, a novel neurogenic factor, reciprocally regulates Lhx2 to control the neuron-glia cell fate switch in the developing hippocampus. *J Neurosci.* 37:11245-11254.
42. Reddy PC, Ubhe S, Sirwani N, Lohokare R, and **Galande S<sup>#</sup>**. (2017) Rapid divergence of histones in Hydrozoa (Cnidaria) and evolution of a novel histone involved in DNA damage response in hydra. *Zoology (Jena)* 123:53-63.
43. Muralidharan B, Khatri Z, Maheshwari U, Gupta R, Roy B, Pradhan S, Karmodiya K, Padmanabhan H, Shetty A, Balaji C, Kolthur-Seetharam U, Macklis J, **Galande S**, and Tole S. (2017) Lhx2 interacts with the NuRD complex and regulates cortical neuron subtype determinants Fezf2 and Sox11. *J Neurosci.* 37:194-203.
44. Gottimukkala KP, Jangid R, Patta I, Sultana DA, Sharma A, Misra-Sen J, and **Galande S<sup>#</sup>**. (2016) Regulation of SATB1 during thymocyte development by TCR signaling. *Mol. Immunol.* 2016 Jul 22;77:34-43.
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47. Sawant AA, Mukherjee PP, Jangid RK, **Galande S<sup>#</sup>**, Srivatsan SG<sup>#</sup>. (2016) A clickable UTP analog for the posttranscriptional chemical labeling and imaging of RNA. *Org Biomol Chem.* 14:5832-5842.
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## Patents:

1. Purbey PK, Jayakumar CP, Patole MS, and **Galande S**. 'An improved purification system'. US Patent, 2009.
2. Tanpure AA, Sawant AA, **Galande S**, and Srivatsan SG. 'Novel azide-modified UTP analogs for posttranscriptional chemical functionalization and imaging of RNA'. Indian Patent filed, 2015 (Granted).
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### Book chapters:

1. Madhok A, deSouza A, and **Galande S<sup>#</sup>**. Understanding Immune System Development: An Epigenetic Perspective. In '*Epigenetics of the Immune System*', Volume 16: Translational Epigenetics, pp 39-76, Edited by Prof. Dieter Kabelitz and Dr. Jaydeep Bhat, Published by Academic Press/Elsevier, Inc (2020).
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4. Mishra RK and **Galande S<sup>#</sup>**. Divide and (epigenetic) rule: Chromatin domains as functional and structural units of genomes. (Invited review article). *Journal of Indian Academy of Sciences*, Platinum Jubilee issue, 2009; pp 211-224.
5. Purbey PK, Limaye A, Notani D, and **Galande S<sup>#</sup>**. Regulation of higher order chromatin organization and function by SATB1. 2009; in '*Chromosome to Genome*', published by the International Book House, New Delhi.

### Research Areas

1. Role of chromatin architecture in regulation of gene expression.
2. Regulation of global gene expression during development, differentiation and disease.
3. Evolution of epigenetic mechanisms.
4. Functional genomics and proteomics.
5. Epigenetics in Health and Disease