**Research achievements: Sanjeev Galande (2015 to 2022)**

**Extent of the contributions:**

Out of these, the two red colored entries are the most significant recent publications from my laboratory in 2023 and have a direct translational/public health impact. The blue colored entries are the next set of significant recent publications from my laboratory that report fundamental discoveries (Basic science). I have conceived and supervised both these studies along with the collaborator, hence we are co-corresponding authors. The work described in the paper published in Frontiers in Neuroscience (# 2 Mahajan et al., 2023) is done as a collaboration with Dr. Nixon Abraham of IISER Pune. Here, the entire project was conceived by me during the pandemic. Since none of the labs could order any strains of mice from overseas, I thought of generating the line in-house. The entire planning and execution of the knockout strategy was done by me. Dr. Nixon's lab performed the phenotyping of the lab. I supervised the entire project. This is one of the most significant contributions for research on COVID. Another significant paper of this year is the paper published in Journal of Developmental Origins of Health and Disease ((# 6 Khare et al., 2023). This is a result of the long-standing collaboration with the diabetes research unit of KEM hospital, Pune. They built the cohort and collected the samples while my laboratory performed the cellular and molecular work as well as data analysis. I supervised the entire project and this was part of the Centre of Excellence Program of DBT. The results of this study have profound implications on the strategies towards dietary interventions for the malnourished population in India.

I all other publications where I am the corresponding author, the ideas and projects were conceived by me along with the PhD students or postdoctoral fellows. I provided the supervision, contributed to data analysis, wrote/edited the manuscripts and also dealt with the revision process. The funding to support this work was also obtained by me from various agencies.

**Certified that I have not received any award for the research work (2015-2023) listed above**.

Sanjeev Galande

**Research Contributions in past 8 years:**

All the awards that I have received are based on the work done prior to 2015. The list of papers published in the past 8 years is given below (in reverse chronological order):

**Publications:** *Equal contribution #Corresponding author

1. 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.

2. 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

3. 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).

4. 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.

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6. 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

7. 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.

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9. 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[#], **Galande S**[#]. (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

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12. 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

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17. Ramanujam, P. L. *, Mehrotra, S. *, Kumar, R. P., Verma, S., Deshpande, G., Mishra, R. K.[#], & **Galande, S**[#] (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.

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Sanjeev Galande