

# Bhargav Sanketi

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## WORK EXPERIENCES

### Scientist

### Altos Labs

2023 - Present

PI: Dr. Juan Carlos Izpisua Belmonte, Institute director/ Founding scientist

Team lead on an Altos goal project 2024 – cross functional team management and strategy | Target safety, regulatory feasibility and competition evaluation | Mouse models of aging and fibrosis -inflammatory diseases (skin, lung, brain, muscle, etc.) | Primary human cells and iPSC models, viral and non-viral delivery, molecular biomarker reporters and protein engineering | Spatial transcriptomics, chromatin measurements | Computational biology and data mining

### Graduate Researcher

### Cornell University

2017 – 2023

PI: Prof. Natasza Kurpios, Professor, Department of Molecular medicine, Cornell University

Thesis: Mesenchymal progenitors drive intestinal rotation, differentiation, and homeostasis | Mouse, chicken and quail models, Adults and embryos | Gastrointestinal and liver form and physiology evaluation, fat absorption | Genetic and molecular engineering, lineage tracing | Single-cell transcriptomics and trajectory reconstruction | high-resolution/ 3D imaging | measurement and manipulation of gene expression, cell signaling and tissue mechanics | Histo-pathology

### Research Project Fellow

### Center for Stem Cell Research

2017

PI: Dr. Mohankumar K Murugesan

Project: Ex-vivo gene therapy for  $\beta$ -hemoglobinopathies | CRISPR platforms for gene knockout, transcription activation and knockdown | Patient-derived cell models | Molecular biology

## EDUCATION

PhD Cornell University, Molecular and Cell Biology 2017 - 2023  
BEng RV College of Engineering, Biotechnology / Engineering 2013 - 2017

## HONORS, AWARDS AND ACHIEVEMENTS

**Academic:** Rising star in Bioengineering - Princeton university – 2023 | Birnstiel award (Honorable mention) – IMP Austria - 2023 | LPS best paper award - 2023 | Cornell College of Veterinary Medicine graduate research fellowship – 2022 | Telluride Scholarship – Telluride Association - 2020 onwards | Three-Minute Thesis (3MT) competition - North American National 3MT (Council of graduate schools) – Winner 2022, Ivy+ 3MT – Runner up 2021, North-east regional 3MT – Runner up – 2021, Cornell University 3MT – Winner – 2021, Cornell College of Veterinary Medicine 3MT – Runner up 2021 | Cornell Center for Vertebrate Genomics seed grant – 2021 (Award team) | Cornell Center for Vertebrate Genomics Scholarship– 2020 | Cornell Graduate School Travel Award – 2019, 2022 | Stem Cell Technologies Travel Award - 2018 | Presidential Life Science Fellowship - Cornell University - 2017 | Gold Medal for Best Academic Performance - RV College of Engineering 2017 | CTS Best Outgoing Student Award – Class of 2017 - RV College of Engineering 2017 | Center for Stem Cell Research, CMC, Vellore - Project Research Fellowship – 2017 | Khorana Research Scholarship - Dept. of BT, Govt. of India and IUSSTF, USA - 2016

**Leadership / Outreach:** Preferment committee – Telluride House – preferment strategies for equitable scholarship 2021 | Mentor for the HHMI CHAMPS program for underrepresented students - 2018, 2019 | Research mentorship for 5 undergraduate research assistants, 4 graduate research assistants, and 10 PhD rotation students in the lab of Dr. Natasza Kurpios, Cornell University | Researcher collaborator - eTrash theatre research on human-nature interaction - Cornell Center for Performing and Media Arts - 2019 | Co-founded the Baked Potato Productions to do theater to spread awareness on mental and nervous health, marginalization, etc. - 3 critically acclaimed productions covered by major news outlets

## PUBLICATIONS

1. Sanketi BD, M. Mantri, et al. “Villus myofibroblasts are developmental and adult progenitors of mammalian gut lymphatic musculature.” *Dev Cell.* (2024) DOI: 10.1016/j.devcel.2024.03.005.
2. Sanketi BD\*, Sivakumar A, Kurpios NA\*. Visualizing and manipulating the production and accumulation of hyaluronan for functional assessment in chicken embryos. *STAR Protoc.* 2023 DOI: 10.1016/j.xpro.2023.102200. (\*co-corresponding authors)
3. Sanketi BD, et al, “Pitx2 patterns an accelerator-brake mechanical feedback through latent TGF $\beta$  to rotate the gut.” *Science.* (2022) DOI: 10.1126/science.abl3921  
*Spotlight: Menon and Burdine, “A twist in Pitx2 regulation of gut looping.” Dev Cell.* (2022)  
*Covered by ScienceDaily, Cornell chronicle, EurekaAlerts, News-medical.net*

4. Shiroor D, Wang KT, et al. "Inhibition of the ATM kinase rescues planarian regeneration after lethal radiation." *EMBO. Rep.* (2023) DOI: 10.15252/embr.202256112
5. Chen F, et al. "The long noncoding RNA PLAYRR regulates Pitx2 dosage and protects against cardiac arrhythmias." *Biorxiv* (2022) DOI: 10.1101/2022.09.20.508562
6. Hu S, et al. "The asymmetric Pitx2 regulates intestinal muscular-lacteal development and protects against fatty liver disease" *Cell. Rep.* (2021) DOI: 10.1016/j.celrep.2021.110030
7. Funk EC, et al. "Changes in Nkx2. 1, Sox2, Bmp4, and Bmp16 expression underlying the lung-to-gas bladder evolutionary transition in ray-finned fishes." *Evolution & Development* (2020) DOI: 10.1111/ede.12354
8. Reddy CM, Sanketi BD, et al. "Corrosion inhibition of mild steel by Capsicum annuum fruit paste." *Perspectives in Science* (2016)
9. Sanketi BD, et al. "Enhancement of Spirulina platensis growth using Coconut water supplemented media" *Journal of Environmental Research and Development* (2016)
10. Shenoy A, et al. "Immobilization of Carbonic Anhydrase: A Review" *Research & Reviews: A Journal of Biotechnology* (2016)
11. Chen X., Sanketi B.D. et al. "Umbilical origin of the ventral body wall" (in preparation)
12. Sanketi BD, et al. "Spatiotemporal reconstruction of intestinal lymphatic heterogeneity" (in preparation)

### **Selected Talks / Posters / Awards**

1. Gordon Proteoglycans (GRS, GRC), Andover, NH. 2018 / "Dissection of a transcriptional network behind conserved midgut tilting controlled by Pitx2 and HC-HA/Tsg6 pathways" / Poster presentation - Best Poster winner
2. EMBO Mechanical Forces in Development, Heidelberg, Germany. 2019 / "Synchronizing midgut formation with the initiation of its leftward tilt" / Oral + poster presentation
3. iBio2 symposium, Iowa State university – Best talk, *Developmental Biology* - 2021
4. Binghamton University symposium – Selected oral presentation, 2020
5. Cornell University BBS symposium – Best Poster award - 2019, 2020
6. International Developmental Mechanics seminar series – Oral presentation, 2022
7. Intestinal Stem Cell Niche – Fusion conference, Cancun, Mexico. 2022 / "Developmental assembly of the intestinal fat-absorption apparatus at single-cell resolution" / Poster presentation
8. Invited seminar – Harvard Medical School, USA, Nov 2022 / "Go with your gut: How the gut gets its coiled structure and fat absorption function."
9. Invited VERGE special seminar – Cornell University, USA, Dec 2022/ "Go with your gut: How the gut gets its coiled structure and fat absorption function."
10. Gordon Research conference – Vascular Cell Biology, Ventura, USA Jan 2023 / "Reconstruction of the origin and assembly of villus smooth muscles – drivers of intestinal fat absorption" / Oral + Poster presentation
11. Invited seminar – Rising star in bioengineering award, Princeton university 2023/ "Navigating the landscape of development, homeostasis and aging"