Bhargav Sanketi

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SUMMARY / SKILLS

Senior scientist with strong track record of cross-functional team leadership, independent research, critical thinking, and scientific achievement in academia and industry. Extensive proven experience in organ and systemic physiology, preclinical models of fibrosis-inflammatory and metabolic diseases, gene therapy, functional genomics and protein engineering.

SELECTED WORK EXPERIENCES

Senior Scientist – I, Biological sciences **May 2025 - Present**
Scientist - I, Cell biology **Altos Labs** **July 2023 - May 2025**

- Supervisor: Dr. Juan Carlos Izpisua Belmonte, Founding scientist, director, senior VP
- Leader of an Altos goal project 2024 – received Above and Beyond award for cross-functional team leadership and fundamental discovery - using primary human cells, cellular reprograming and iPSC models, chromatin measurements and protein engineering, and leading 2 goal projects in 2025
- Developed >10 novel cell and tissue reprogramming methods with efficacy in pre-clinical trials in various age-associated diseases
- Developed an high-throughput *in vivo* platform for screening anti-fibrotic therapeutics
- Established robust mouse and human models of aging and fibrosis -inflammatory diseases (liver, skin, lung), methods of therapeutic viral and non-viral delivery, biomarkers, *in vivo* functional genomics - single-cell/spatial omics

Graduate Researcher **Cornell University** **Aug 2017 - July 2023**

- Thesis: Mesenchymal progenitors drive intestinal rotation, differentiation, and homeostasis
  Advisor: Prof. Natasza Kurpios, Professor, Department of Molecular medicine
- Developed in vivo methods for manipulating gene expression, signaling and mechanical properties of tissues and solved a long-standing question of how embryonic organs initiate morphogenesis independently from each other
- Led the generation of a single-cell atlas of intestinal development and used it to identify progenitors of the fat-absorption system using lineage tracing, physiological assays and high-content 3D imaging of tissues
- Identified the cells of origin of the intestinal lymphatic network during early specification
- Proved the existence of an umbilical progenitor than builds the mammalian body wall by building novel embryo surgeries
- Skills: Mouse, rat, chicken and quail models, eggs, embryos, neonates and adults | Gastrointestinal and liver form and physiology evaluation, fat absorption, colitis and NASH models | Single-cell transcriptomics and trajectory reconstruction | lineage tracing, high-resolution/ 3D imaging | measurement and manipulation of gene expression, cell signaling and tissue mechanics | Histo-pathology | Data mining and analysis - Python/R

Project fellow **Center for Stem Cell Research, Vellore** **Dec 2016 – July 2017**
Gene therapy for β-hemoglobinopathies | CRISPR platforms | Patient-derived immunology models | Molecular biology

Khorana Research Scholar **University of Wisconsin – Madison** **2016**
Research intern **inStem, National center for biological sciences** **2015**
Research assistant **RV College of Engineering** **2014 - 2016**

EDUCATION

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

SELECTED ACHIEVEMENTS

Awards and fellowships: Altos Above and Beyond Award (2024); 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); North American National 3MT Winner, Council of Graduate Schools (2022); Center for Vertebrate Genomics Seed Grant and scholarship, Cornell University (2021); Telluride Scholarship, Telluride Association (2020); Presidential Life Science Fellowship, Cornell University (2017);

Gold Medal for Best Academic Performance, RV College of Engineering (2017); Khorana Research Scholarship, Govt. of India and USA (2016); JENESYS scholarship – Govt. of Japan (2011).

Leadership / mentoring: Co-chair, Gordon Research Seminar – Vascular Cell Biology, Ventura, CA (2025); Co-organizer, Gulmohar seminar series - Indian Society for Developmental Biology Seminar Series (2024); Teaching Assistant, Intro: Cell and Developmental Biology, Cornell University (2022); Member, Global Cornell Anti-racism Engagement Team (2021); Guest Lecturer, Ithaca College, NY (2019-2021); Mentor, HHMI CHAMPS program for underrepresented students (2018, 2019); Research Mentor for undergraduate and graduate students, Cornell University (2017-2022); Co-founder, Baked Potato Productions – Theater company for social awareness (2016-2019).

PUBLICATIONS

Peer reviewed publications / preprints

1. *Sanketi BD*, et al. "Morphogenesis of vertebrate intestine: from form to function" An. Rev. Cell. Dev. (2025) In Press. (*corresponding author)*
2. *Sanketi BD, Mantri M, 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.*
3. *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)*
4. *Sanketi BD, et al, "Pitx2 patterns an accelerator-brake mechanical feedback through latent TGFβ 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
5. *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*
6. *Sanketi BD, Kurpios NA "In ovo gain- and loss- of function approaches to study gut morphogenesis" Methods in Molecular Biology: Cell Polarity Signaling (2022) DOI: 10.1007/978-1-0716-2035-9_11*
7. *Sanketi BD, Kurpios NA "Avian embryos as a model to study vascular development" Methods in Molecular Biology: Cell Polarity Signaling (2022) DOI: 10.1007/978-1-0716-2035-9_12*
8. *Chen F, et al. "The long noncoding RNA PLAYRR regulates Pitx2 dosage and protects against cardiac arrythmias." Biorxiv (2022) DOI: 10.1101/2022.09.20.508562*
9. *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*
10. *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*
11. *Reddy CM, Sanketi BD, et al. "Corrosion inhibition of mild steel by Capsicum annuum fruit paste." Perspectives in Science (2016)*
12. *Sanketi BD, et al. "Enhancement of Spirulina platensis growth using Coconut water supplemented media" Journal of Environmental Research and Development (2016)*
13. *Shenoy A, et al. "Immobilization of Carbonic Anhydrase: A Review" Research & Reviews: A Journal of Biotechnology (2016)*

In preparation

14. *Lu Y, Tu W, Li R, Sanketi BD, et al. "Mitigating mesenchymal drift in aging and fibrotic diseases via partial reprogramming" (in review)*
15. *Sanketi BD, et al. "Uncoupling chromatin rejuvenation from dedifferentiation during partial reprogramming" (in preparation for IP and publication)*
16. *Chen X, Sanketi BD et al. "Umbilical origin of the ventral body wall" (in preparation)*
17. *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."*
12. *Invited seminar – Longevity initiative, Indian Institute of Science 2024/ "Balancing the somatic state during development, fibrosis and aging."*
13. *Invited seminar – National Center for Biological sciences 2024/ "Balancing the somatic state during development, fibrosis and aging."*
14. *Invited seminar - Gordon Research conference – Vascular Cell Biology, Ventura, USA Jul 2025*