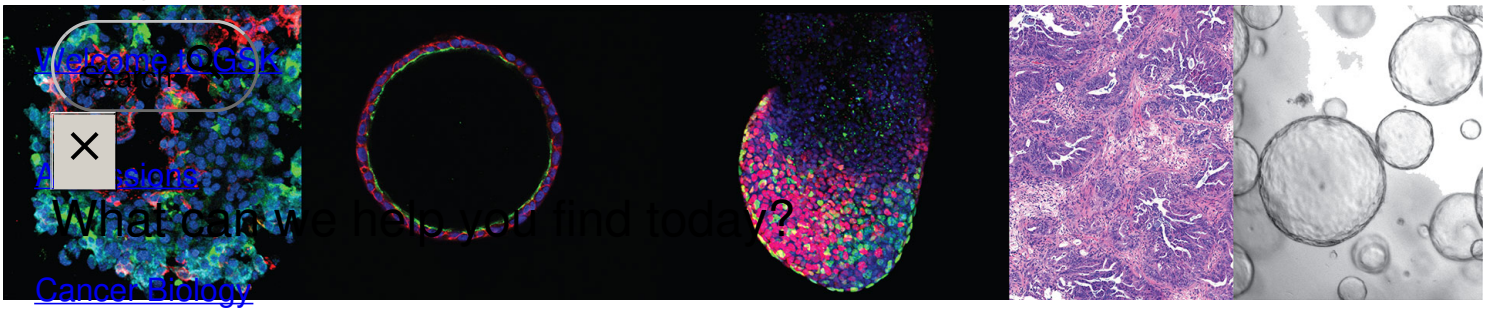
Gerstner Sloan Kettering
Graduate School of Biomedical Sciences



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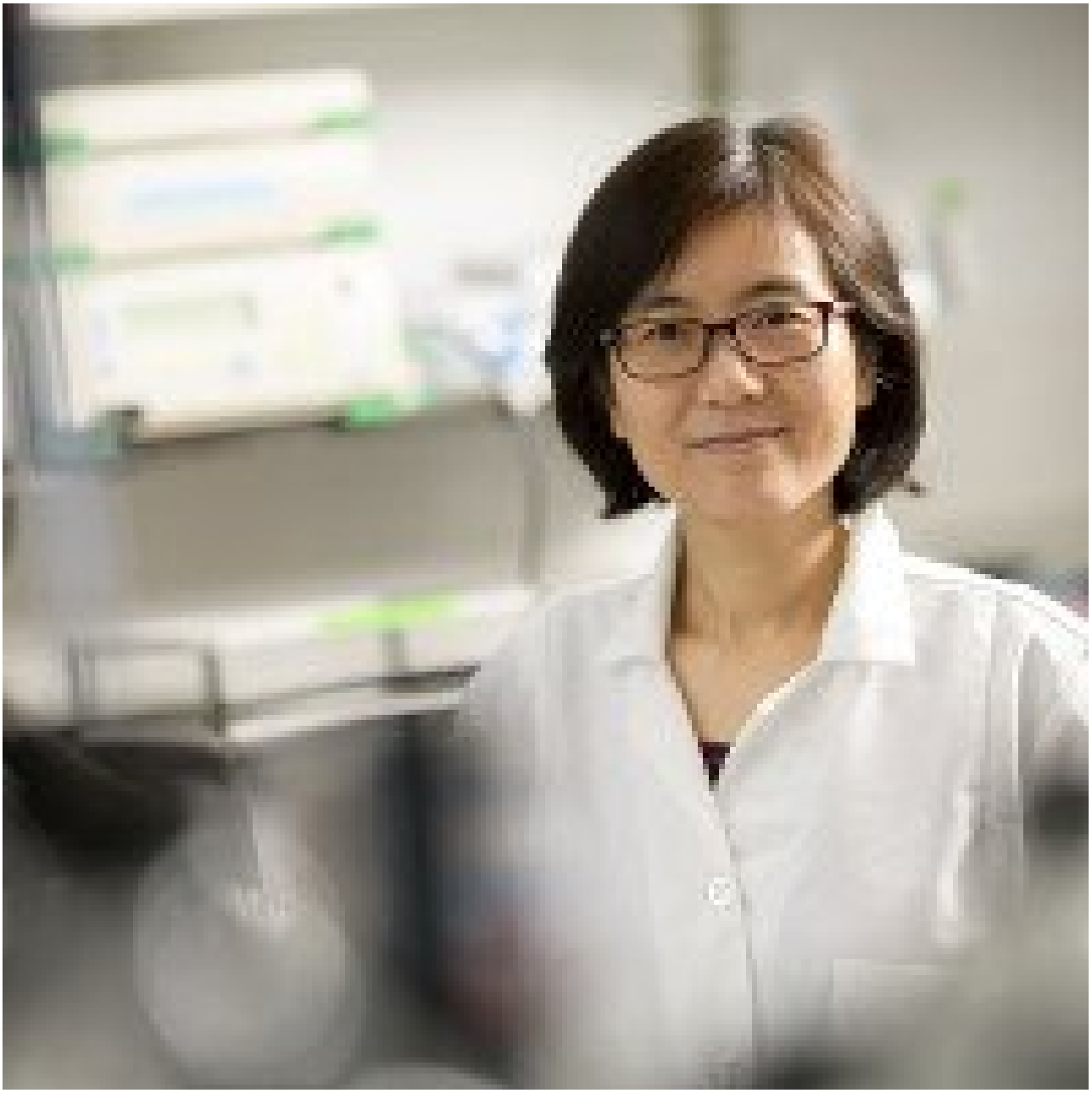


Danwei Huangfu, PhD

Professor

We apply both precision gene editing and large-scale CRISPR screening in human pluripotent stem cells (hPSCs) to explore mechanisms underlying human development. Specifically, we are interrogating the protein-coding regulators of pancreatic development and β cell function. The pathways that regulate these processes can be exploited for therapeutics to prevent and reverse diseases such as type 1 and type 2 diabetes. In a second, closely related area, we are developing approaches to discover developmental enhancers, and to understand the epigenetic

regulation of noncoding regulatory elements with a focus on DNA methylation.

View Lab Overview (https://www.sloankettering.edu/research-areas/labs/danwei-huangfu/overview)

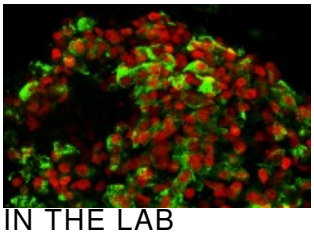
The MSK MorPhiC project (https://morphic.mskcc.org/)

Featured News

FINDING

Stem Cell Research Unlocks a New Discovery about Controlling Genes

Sloan Kettering Institute scientists report new findings about a gene that helps regulate DNA methylation.



IN THE LAB

Scientists Use CRISPR to Learn How Cells Make Decisions

The genome-editing technique uncovered several genes previously not known to influence embryonic development.

EVENT

A Sneak Preview of Our Annual “Major Trends” Seminar Live Webcast

Every year, MSK gives high school students and their teachers the opportunity to learn about cutting-edge biomedical research from our scientists.

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Publications Highlights

Glucose transporters are key components of the human glucostat. Caspi I, Tremmel DM, Pulecio J, Yang D, Liu D, Yan J, Odorico JS, Huangfu D. Diabetes. 2024 May 22:db230508. *(first author(s) from the Huangfu lab are shown in bold)*

Dynamic network-guided CRISPRi screen identifies CTCF-loop-constrained nonlinear enhancer gene regulatory activity during cell state transitions. Luo R, Yan J, Oh JW, Xi W, Shigaki D, Wong W, Cho HS, Murphy D, Cutler R, Rosen BP, Pulecio J, Yang D, Glenn RA, Chen T, Li QV, Vierbuchen T, Sidoli S, Apostolou E, Huangfu D#, Beer MA#. Nature Genetics. 2023 Aug;55(8):1336-1346. *(#co-corresponding author)*

CRISPR screening uncovers a central requirement for HHEX in pancreatic lineage commitment and plasticity restriction. Yang D, Cho H, Tayyebi Z, Shukla A, Luo R, Dixon G, Ursu V, Stransky S, Tremmel DM, Sackett SD, Koche R, Kaplan SJ, Li QV, Park J, Zhu

Z, Rosen BP, Pulecio J, Shi ZD, Bram Y, Schwartz RE, Odorico JS, Sidoli S, Wright CV, Leslie CS#, Huangfu D#. Nature Cell Biology. 2022 Jul;24(7):1064-1076.

QSER1 protects DNA methylation valleys from de novo methylation. Dixon G, Pan H, Yang D, Rosen BP, Jashari T, Verma N, Pulecio J, Caspi I, Lee K, Stransky S, Glezer A, Liu C, Rivas M, Kumar R, Lan Y, Torregroza I, He C, Sidoli S, Evans T, Elemento O#, Huangfu D#. Science. 2021 Apr 9;372(6538):eabd0875.

Genome-scale screens identify JNK-JUN signaling as a barrier for pluripotency exit and endoderm differentiation. Li QV, Dixon G, Verma N, Rosen BP, Gordillo M, Luo R, Xu C, Wang Q, Soh CL, Yang D, Crespo M, Shukla A, Xiang Q, Dündar F, Zumbo P, Witkin M, Koche R, Betel D, Chen S, Massagué J, Garippa R, Evans T, Beer MA#, Huangfu D#. Nature Genetics. 2019 Jun;51(6):999-1010.

View All Publications

People

Danwei Huangfu, PhD

Professor

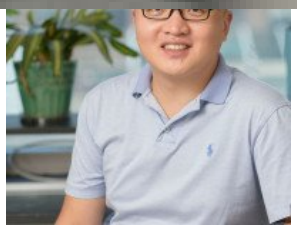
- The Huangfu laboratory uses human pluripotent stem cells (hPSCs) as a powerful genetic model to interrogate the transcriptional and epigenetic mechanisms underlying cell fate decisions in development and disease.
- PhD, Cornell University, Weill Graduate School of Medical Sciences
- BS, Fudan University

huangfud@mskcc.org
Email Address

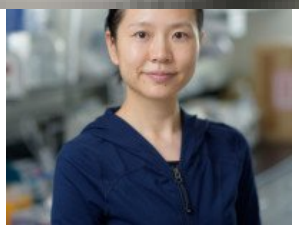
Download CV
PDF File

Members

Julian Pulecio
Sr. Research Scientist



Dapeng Yang
Sr. Research Scientist



Xian Zhang
Sr. Research Scientist

Lab Alumni

Lab Affiliations

Achievements

- Basil O'Connor Scholar, March of Dimes Birth Defects Foundation (2012-2014)

Louis V. Gerstner, Jr. Young Investigators Award, Memorial Sloan Kettering Cancer Center (2011-2014)
- Award from Harvard Catalyst & InnoCentive for the Ideation Challenge on “What Do We Not Know to Cure Type 1 Diabetes” (2010)
- Helen Hay Whitney Postdoctoral Fellowship (2006-2009)

Adonis C. John

Lead, Research Administrative Assistant

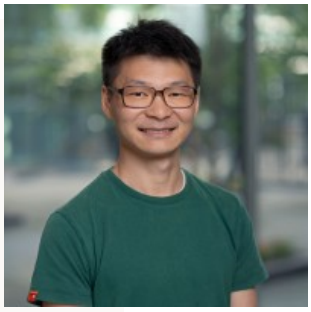
Lab News & Events

Tamara Casteels

Research Fellow - NYSTEM Training Award at the CSCB

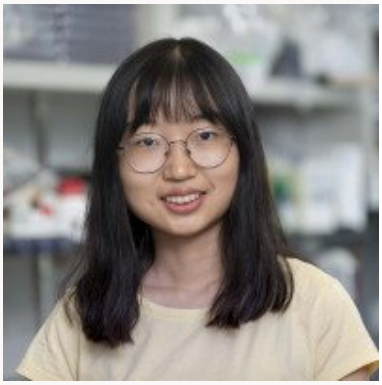
Tingfeng Guo

Research Fellow



Nan Hu

Computational Biologist



Dingyu Liu

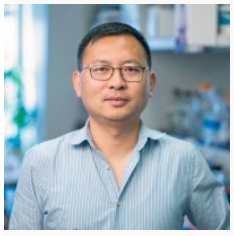
Graduate Research Assistant

Pallavi Mohapatra

Research Fellow

Denis Torre

Research Scholar

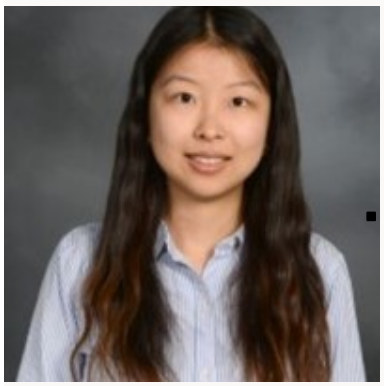


Xianming Wang

Research Fellow

Breanna Williams
Research Technician

Nan Zhang
Research Associate



Jiahui Hazel Zhao
Graduate Research Assistant

ACCOLADES

Team Recognitions

- Denis Torre - Damon Runyon Cancer Research Foundation Fellowship (2025)
- Tamara Casteels - Emerald Foundation Postdoctoral Fellowship (2025)
- Pallavi Mohapatra - Kaufman Family Postdoctoral Fellowship in Pediatric Cancer (2025)
- Renhe Luo - GSK Chairman's Prize (2024)
- Julian Pulecio - 2023 cohort of MERIT Emerging Leaders
- Dingyu Liu - Bruce Charles Forbes Fellowship (2023)
- Tamara Casteels - NYSTEM Training Award at the CSCB (2022)
- Tamara Casteels - Award of Excellence for her PhD thesis with Stefan Kubicek in CeMM (2022)
- Nan Zhang - CDMRP PRMRP Discovery Award (2022)

Open Positions

Graduate Student, Postdoctoral Fellow, Research Technician and Project Manager

Apply now (https://www.sloankettering.edu/research-areas/labs/danwei-huangfu/career-

opportunities)

Get in Touch

huangfud@mskcc.org
Lab Head Email

212-639-5240
Lab Phone

Disclosures

Members of the MSK Community often work with pharmaceutical, device, biotechnology, and life sciences companies, and other organizations outside of MSK, to find safe and effective cancer treatments, to improve patient care, and to educate the health care community. These activities outside of MSK further our mission, provide productive collaborations, and promote the practical application of scientific discoveries.

MSK requires doctors, faculty members, and leaders to report ("disclose") the relationships and financial interests they have with external entities. As a commitment to transparency with our community, we make that information available to the public. Not all disclosed interests and relationships present conflicts of interest. MSK reviews all disclosed interests and relationships to assess whether a conflict of interest exists and whether formal COI management is needed.

Danwei Huangfu discloses the following relationships and financial interests:

- Breakthrough T1D
  Professional Services and Activities
- Stem Cell Reports
  Professional Services and Activities (Uncompensated)

The information published here is a complement to other publicly reported data and is for a specific annual disclosure period. There may be differences between information on this and other public sites as a result of different reporting periods and/or the various ways relationships and financial interests are categorized by organizations that publish such data.

This page and data include information for a specific MSK annual disclosure period (January 1, 2024 through disclosure submission in spring 2025). This data reflects interests that may or may not

still exist. This data is updated annually.

Learn more about MSK's COI policies here . For questions regarding MSK's COI-related policies and procedures, email MSK's Compliance Office at ecoi@mskcc.org .

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