



[Welcome to GSK](#)

COMPUTATIONAL & SYSTEMS BIOLOGY PROGRAM

## **The Joao Xavier Lab**

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[Cancer Biology](#)

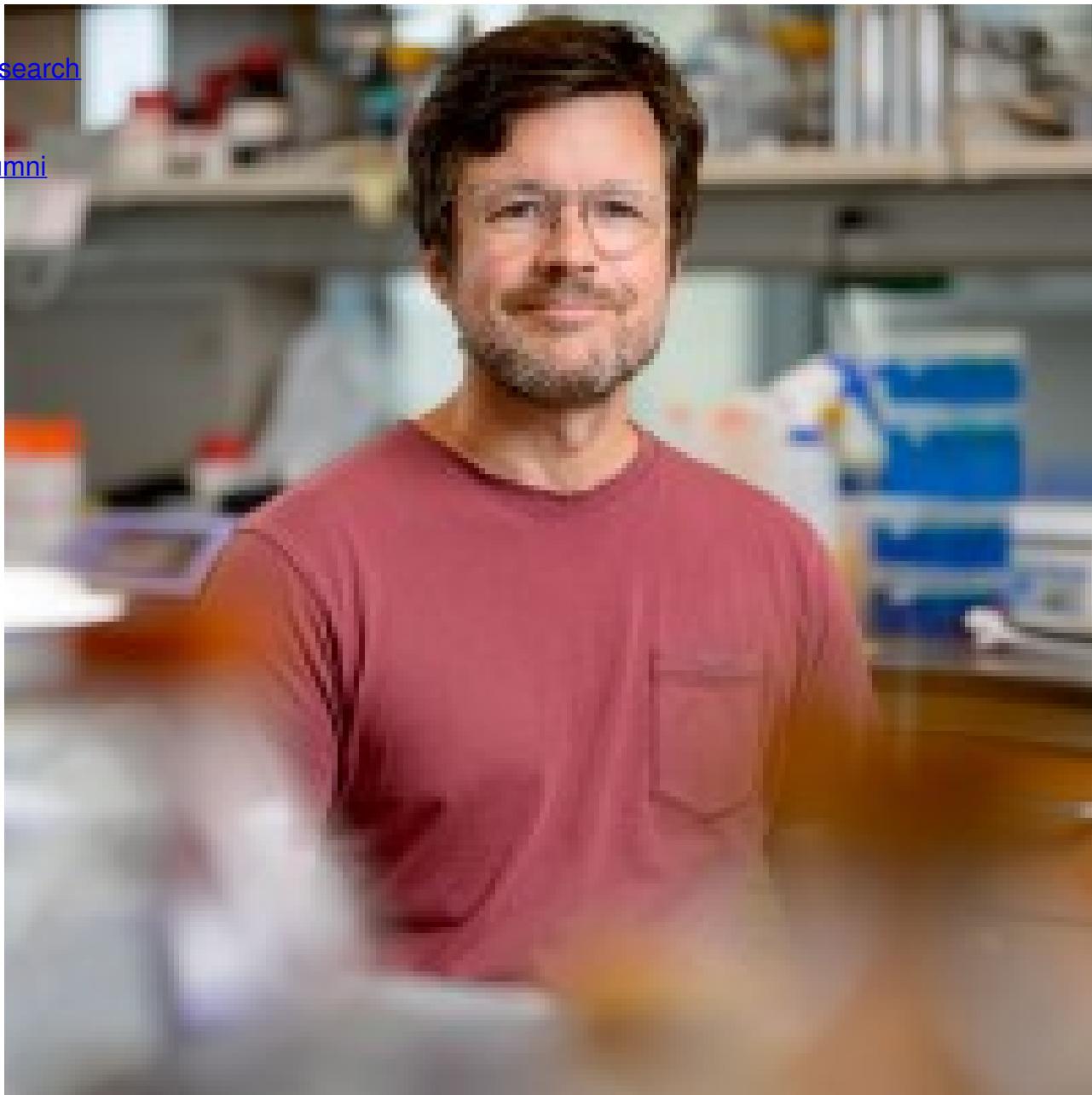
### **Research**

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Joao Xavier, PhD

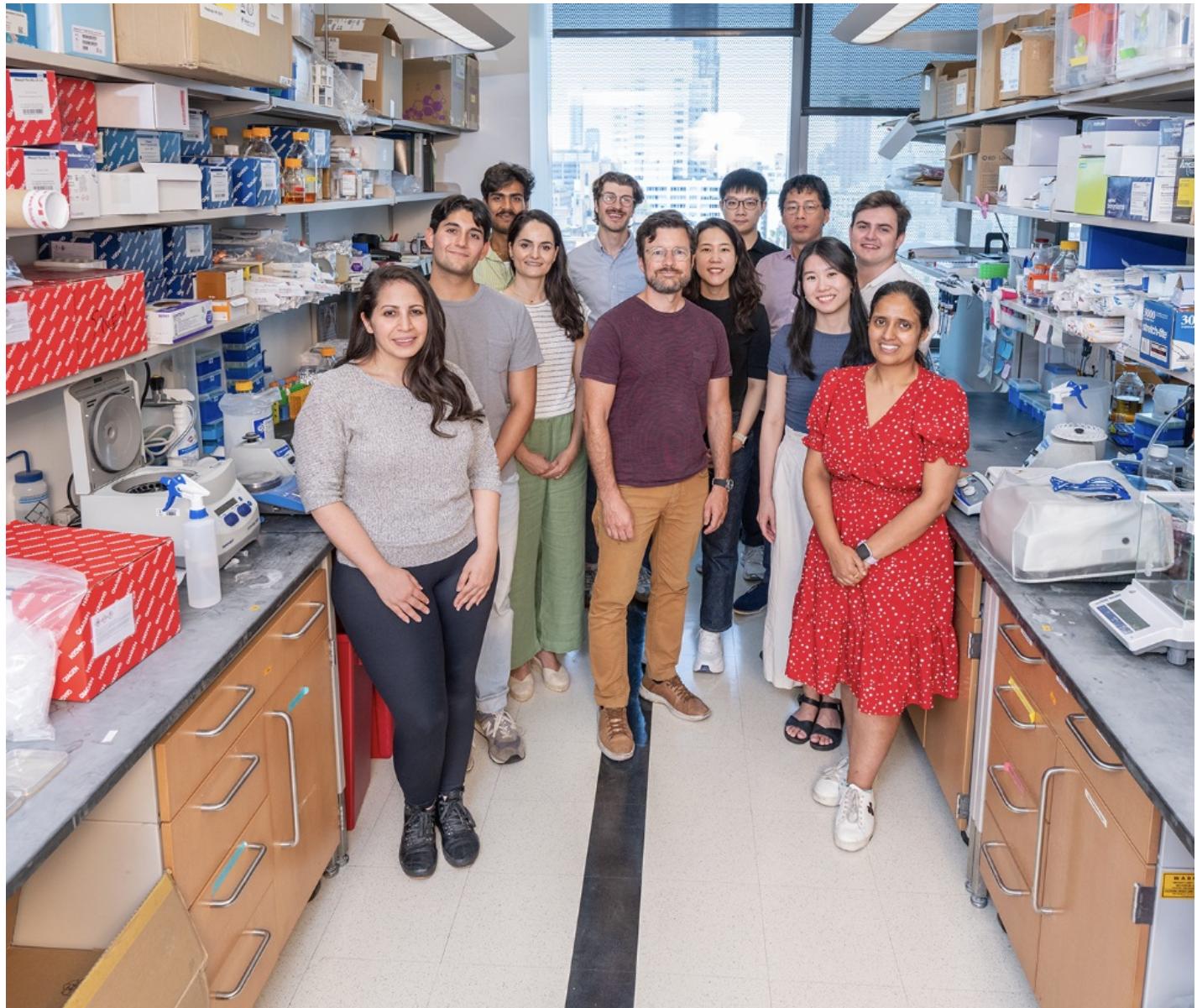
Member, Computational & Systems Biology Program

Professor

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We combine computation and experiment to investigate how cells interact with each other to produce complex cell group behaviors.

[View Lab Overview](https://www.sloankettering.edu/research-areas/labs/joao-xavier/overview) (<https://www.sloankettering.edu/research-areas/labs/joao-xavier/overview>)



## Featured News

## FINDING



### [MSK Study Is the First to Link Microbiota to Dynamics of the Human Immune System](#)

MSK researchers have shown for the first time that the concentration of different types of immune cells in the blood changes in relation to the presence of different bacterial strains in the gut.



### [At Work: Computational Biologist Joao Xavier](#)

Computational biologist Joao Xavier combines computer models and laboratory experimentation to understand how cells interact.



### [Turning to Bacteria for Clues](#)

Several Memorial Sloan Kettering investigators are focused on the study of bacteria, which can teach us much about human health, and about cancer in particular.

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## Publications Highlights

[Ecological management of the microbiota in patients with cancer](#)

Xavier JB

*Nature Reviews Clinical Oncology*, 2025

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[Oral bacteria relative abundance in faeces increases due to gut microbiota depletion and is linked with patient outcomes](#)

Liao C, Rolling T, Djukovic A, Fei T, Mishra V, Liu H, Lindberg C, Dai L, Zhai B, Peled JU, van den Brink MRM, Hohl TM, Xavier JB

*Nature Microbiology*, 2024

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[The Ratio of Key Metabolic Transcripts Is a Predictive Biomarker of Breast Cancer Metastasis to the Lung](#)

Mathur D, Liao C, Lin W, La Ferlita A, Alaimo S, Taylor S, Zhong Y, Iacobuzio-Donahue C, Ferro A, Xavier JB

*Cancer Research*, 2023

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[The TaxUMAP atlas: Efficient display of large clinical microbiome data reveals ecological competition in protection against bacteremia](#)

Schluter J, Djukovic A, Taylor BP, Yan J, Duan C, Hussey GA, Liao C, Sharma S, Fontana E, Amoretti LA, Wright RJ, Dai A, Peled JU, Taur Y, Perales MA, Siranosian BA, Bhatt AS, van den Brink MRM, Pamer EG, Xavier JB

*Cell Host & Microbe*, 2023

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[The gut microbiota is associated with immune cell dynamics in humans](#)

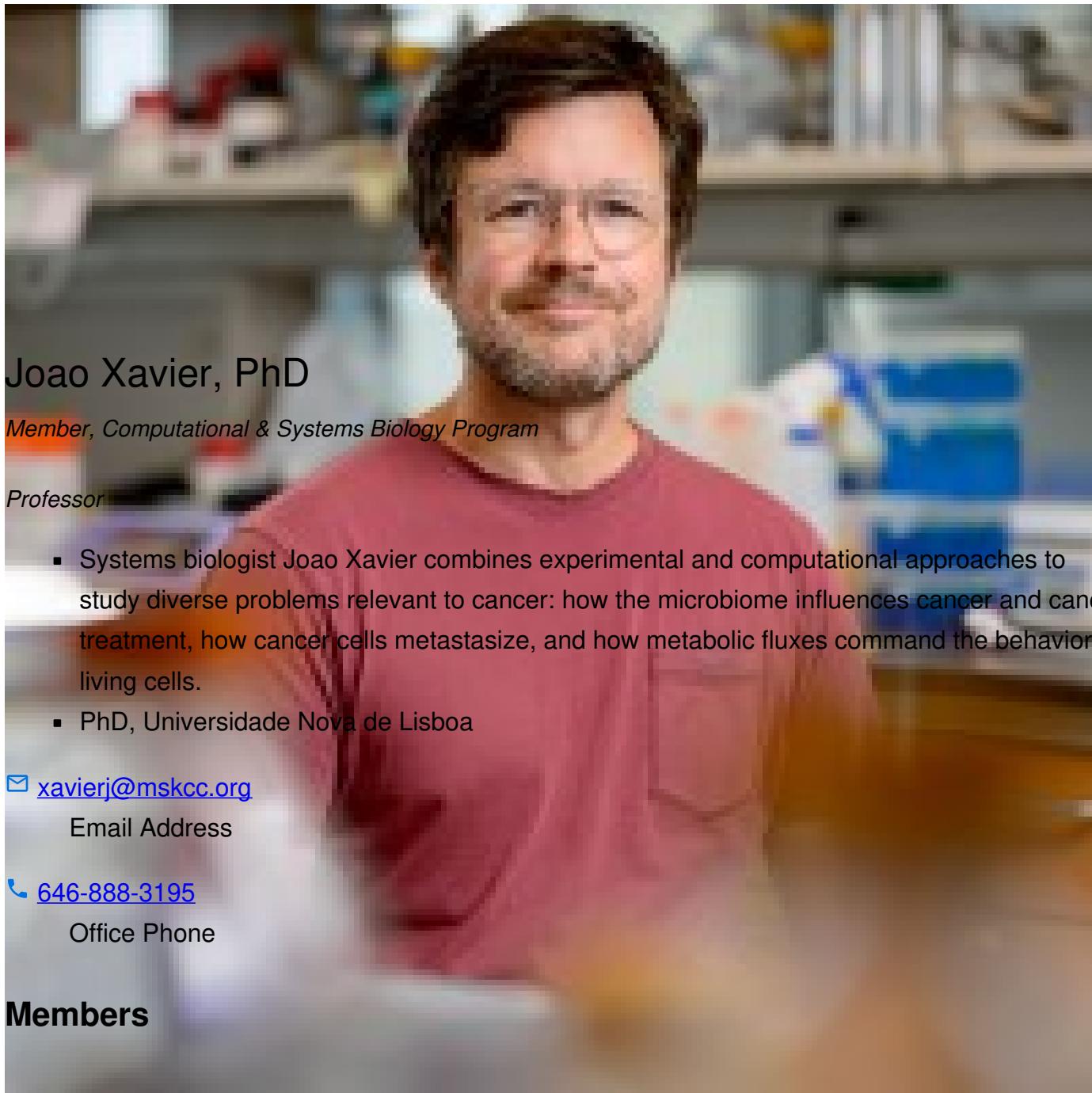
Schluter J, Peled JU, Taylor BP, Markey KA, Smith M, Taur Y, Niehus R, Staffas A, Dai A, Fontana E, Amoretti LA, Wright RJ, Morjaria S, Fenelus M, Pessin MS, Chao NJ, Lew M, Bohannon L, Bush A, Sung AD, Hohl TM, Perales MA, van den Brink MRM, Xavier JB

*Nature*, 2020

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[View All Publications](#)

## People



## Joao Xavier, PhD

Member, Computational & Systems Biology Program

Professor

- Systems biologist Joao Xavier combines experimental and computational approaches to study diverse problems relevant to cancer: how the microbiome influences cancer and cancer treatment, how cancer cells metastasize, and how metabolic fluxes command the behavior of living cells.
- PhD, Universidade Nova de Lisboa

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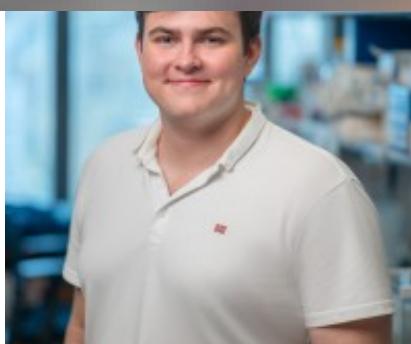
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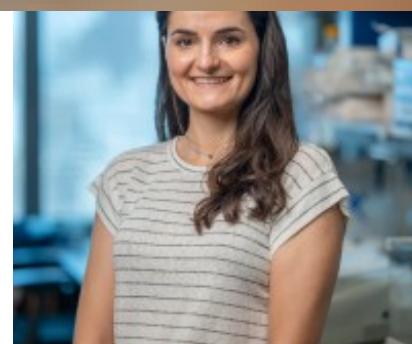
Office Phone

## Members

Research Technician



Andras Bimbo-Szuhai  
Research Technician



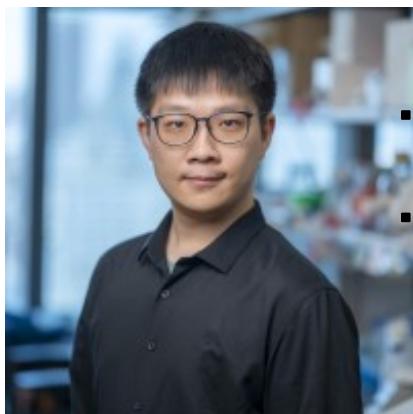
Ana Djukovic  
Senior Research Scientist

Lab  
Alumni

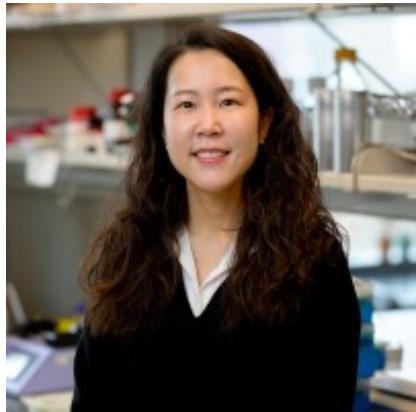
## Lab Affiliations



Maddie Gunnell  
Administrative Assistant



Qixiu Han  
Graduate Student



Heesoo Jeong  
Research Scholar



Diego Kaune  
Research Technician



Sharon Li  
Research Technician



Chen Liao  
Research Scholar

## Achievements

- Director's New Innovator Award, National Institutes of Health (2011)
- Biofilm Young Investigator Award, Center for Biofilm Engineering (2010)

## Open Positions

To learn more about available postdoctoral opportunities, please visit our [Career Center](#)

To learn more about compensation and benefits for postdoctoral researchers at MSK, please visit [Resources for Postdocs](#)

## Get in Touch

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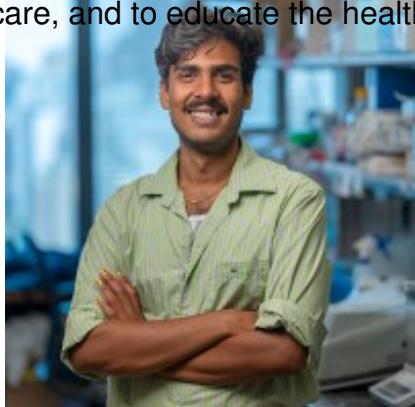
## Disclosures

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



Deepti Mathur  
Postdoctoral Research Fellow  
Carlos Pardo De La Hoz  
Research Scholar



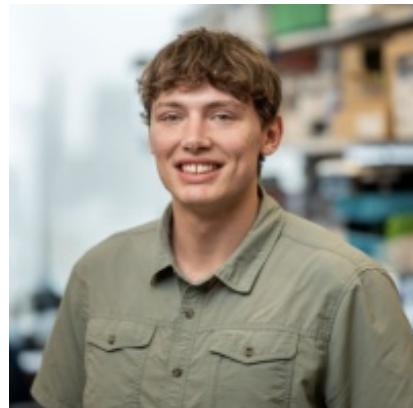
Vishwas Mishra  
Graduate Student

outside of MSK further our mission, provide productive collaborations, and promote the practical application of scientific discoveries.



Sneh Sharma  
Lab Manager

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.



Isaac Stamper  
Computational Biologist



Benjamin Wucher  
Research Scholar

Joao Xavier discloses the following relationships and financial interests:

- Oficina Design  
Fiduciary Role / Position

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.

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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](mailto:ecoi@mskcc.org) .

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