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HUMAN ONCOLOGY & PATHOGENESIS PROGRAM

# The Ross Levine Lab

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Ross L. Levine, MD

The goal of our research is to improve our understanding of the genetic basis of blood disorders known as myeloid malignancies, and to use this knowledge to improve therapies for patients with these disorders. Our efforts are focused on the identification and characterization of somatic mutations in hematologic malignancies using candidate gene, genome-wide, and functional approaches, with a specific interest in the role of aberrant signal transduction in malignant transformation and in the effects of mutations in epigenetic modifiers in myeloproliferative neoplasms (MPNs) and acute myeloid leukemia (AML). As a physician-scientist, we have a specific interest in translating this knowledge back to the clinic, in the preclinical and clinical evaluation of targeted therapies for leukemia patients, and in the development of clinically tractable genomic assays for patients with hematologic malignancies.



## Featured News



### [Ross Levine, MD, Named Chief Scientific Officer of Memorial Sloan Kettering Cancer Center](#)

Memorial Sloan Kettering Cancer Center (MSK) announced today that Ross Levine, MD, has been named MSK's new Chief Scientific Officer (CSO). A renowned physician-scientist, Dr. Levine previously served as Senior Vice President of Translational Research in Memorial Hospital (MH) and holds the Edward P. Evans Endowed Chair for Myelodysplastic Syndromes at MSK.



IN THE LAB

### [AACR 2021 Research Roundup: Chromosomal Instability, Early Changes in Blood Cancer, Revamping CAR T Cell Therapy](#)

MSK researchers shared their latest research developments at the 2021 meeting of the American Association for Cancer Research.



IN THE LAB

### [Single-Cell Study Sheds Light on Leukemia's Family Tree](#)

New research looks at how a series of mutations in normal blood cells can lead to them becoming cancerous and how these mutations accumulate as cancer progresses.

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# Publications Highlights

[Dunbar A.J., Bowman R.L., Park Y.C., O'Connor K., Izzo F., Myers R.M., Karzai A., Zaroogian Z., Kim W.J., Fernandez-Maestre I., Waarts M.R., Nazir A., Xiao W., Codilupi T., Brodsky M., Farina M., Cai L., Cai S.F., Wang B., An W., Yang J.L., Mowla S., Eisman S.E., Hanasoge Somasundara A.V., Glass J.L., Mishra T., Houston R., Guzzardi E., Martinez Benitez A.R., Viny A.D., Koche R.P., Meyer S.C., Landau D.A., Levine R.L. Jak2V617F Reversible Activation Shows Its Essential Requirement in Myeloproliferative Neoplasms. \*Cancer Discov.\* 2024 Jan 12. doi: 10.1158/2159-8290.CD-22-0952. Epub ahead of print.](#)

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[Stonestrom A.J., Menghrajani K.N., Devlin S.M., Franch-Expósito S., Ptashkin R.N., Patel S.Y., Spitzer B., Wu X., Jee J., Sánchez Vela P., Milbank J.H., Shah R.H., Mohanty A.S., Brannon A.R., Xiao W., Berger M.F., Mantha S., Levine R.L. High-risk and silent clonal hematopoietic genotypes in patients with nonhematologic cancer. \*Blood Adv.\* 2024 Feb 27;8\(4\):846-856. doi: 10.1182/bloodadvances.2023011262. PMID: PMC10875331.](#)

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[Perner F., Stein E.M., Wenge D.V., Singh S., Kim J., Apazidis A., Rahnamoun H., Anand D., Marinaccio C., Hatton C., Wen Y., Stone R.M., Schaller D., Mowla S., Xiao W., Gamlen H.A., Stonestrom A.J., Persaud S., Ener E., Cutler J.A., Doench J.G., McGeehan G.M., Volkamer A., Chodera J.D., Nowak R.P., Fischer E.S., Levine R.L., Armstrong S.A., Cai S.F. MEN1 mutations mediate clinical resistance tomenin inhibition. \*Nature.\* 2023 Mar;615\(7954\):913-919. doi: 10.1038/s41586-023-05755-9. Epub 2023 Mar 15. PMID: PMC10157896.](#)

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[Dunbar A.J., Kim D., Lu M., Farina M., Bowman R.L., Yang J.L., Park Y., Karzai A., Xiao W., Zaroogian Z., O'Connor K., Mowla S., Gobbo F., Verachi P., Martelli F., Sarli G., Xia L., Elmansy N., Kleppe M., Chen Z., Xiao Y., McGovern E., Snyder J., Krishnan A., Hill C., Cordner K., Zouak A., Salama M.E., Yohai J., Tucker E., Chen J., Zhou J., McConnell T., Migliaccio A.R., Koche R., Rampal R., Fan R., Levine R.L., Hoffman R. CXCL8/CXCR2 signaling mediates bone marrow fibrosis and is a therapeutic target in myelofibrosis. \*Blood.\* 2023 May 18;141\(20\):2508-2519. doi: 10.1182/blood.2022015418. PMID: PMC10273167.](#)

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[Miles L.A., Bowman R.L., Merlinsky T.R., Csete I.S., Ooi A.T., Durruthy-Durruthy R., Bowman M., Famulare C., Patel M.A., Mendez P., Ainali C., Demaree B., Delley C.L.,](#)

[Abate A.R., Manivannan M., Sahu S., Goldberg A.D., Bolton K.L., Zehir A., Rampal R., Carroll M.P., Meyer S.E., Viny A.D., Levine R.L. Single-cell mutation analysis of clonal evolution in myeloid malignancies. Nature. 2020 Nov;587\(7834\):477-482. doi: 10.1038/s41586-020-2864-x. Epub 2020 Oct 28. PMID: PMC7677169.](#)

[View All Publications](#)

## People



### Ross L. Levine, MD

*Chief Scientific Officer; Edward P. Evans Endowed Chair for MDS*

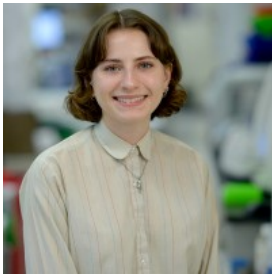
*Professor*

- Mechanisms of genetic and epigenetic cooperativity which drive myeloid transformation; Elucidating and modeling evolution from hematopoietic stem/progenitor cells to clonal hematopoiesis and then to myeloid malignancies; Identification and credentialing novel therapeutic dependencies in myeloid malignancies
- MD, Johns Hopkins School of Medicine

✉ [leviner@mskcc.org](mailto:leviner@mskcc.org)

Email Address

### Members



Maya Bagish  
Research Technician



Sheng Cai  
Assistant Attending



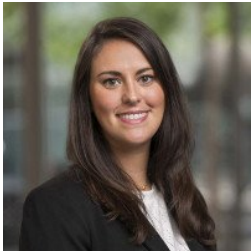
Maria Teresa Calvo-Fernandez  
Researcher and Leader

Lab  
Alumni

Lab Affiliations

## Achievements

- Scholar, Leukemia and Lymphoma Society Scholar (2012)



Christine Caprioli  
Project Coordinator



Subyeta Chowdhury  
MSK Bridge Program Scholar



Alexa Cohen  
Research Technician

Hannah Fay  
Research Scholar

- Louis and Allston Boyer Young Investigator Award for Basic Research, Memorial Sloan Kettering Cancer Center (2011)

- Member, American Society of Clinical Investigation (2011)

- Sir William Osler Young Investigator Award, Interurban Clinical Club (2011)



Rebecca Gelfer  
GSK Graduate Student

## Open Positions

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



Alexander G. Goglia  
Holman Research Pathway



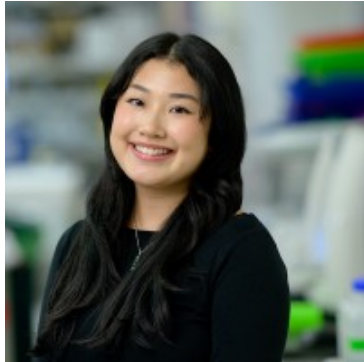
Amritha Varshini Hanasoge  
Somasundara

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

## Get in Touch

✉ [leviner@mskcc.org](mailto:leviner@mskcc.org)

Resident



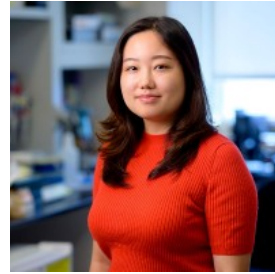
Celina Huang  
Senior Research Technician

Senior Research Assistant




Mahak Kathpalia  
Research Technician

Lab Head Email



Kaitlyn Ko  
Research Technician

 [646-888-2796](tel:646-888-2796)

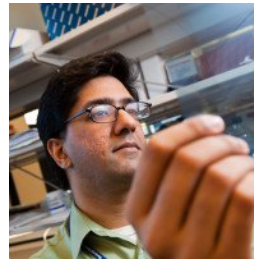
Lab Phone

## 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.



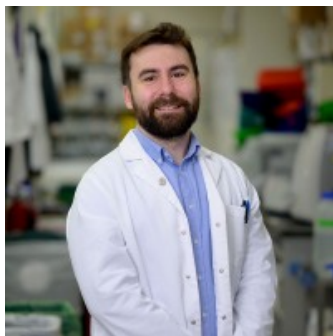
Tatiana Pavletich  
GSK Graduate Student



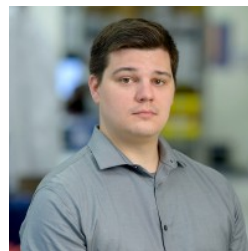
Raajit K. Rampal  
Associate Attending  
Merve Sahin  
Data Scientist II



Aisha Saldanha  
GSK Graduate Student



Pablo Sánchez Vela  
Senior Research Scientist



Matthew Wereski  
Research Assistant  
Wenbin Xiao  
Associate Attending



Xiaodi Wu  
Instructor

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.

Ross L. Levine discloses the following relationships and financial interests:

- Ajax Therapeutics, Inc.  
Equity; Intellectual Property Rights; Professional Services and Activities
- Auron Therapeutics, Inc.  
Equity

- Cure Breast Cancer Foundation  
Intellectual Property Rights
- Qiagen  
Equity; Professional Services and Activities
- The Mark Foundation for Cancer Research  
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 (as of December 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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