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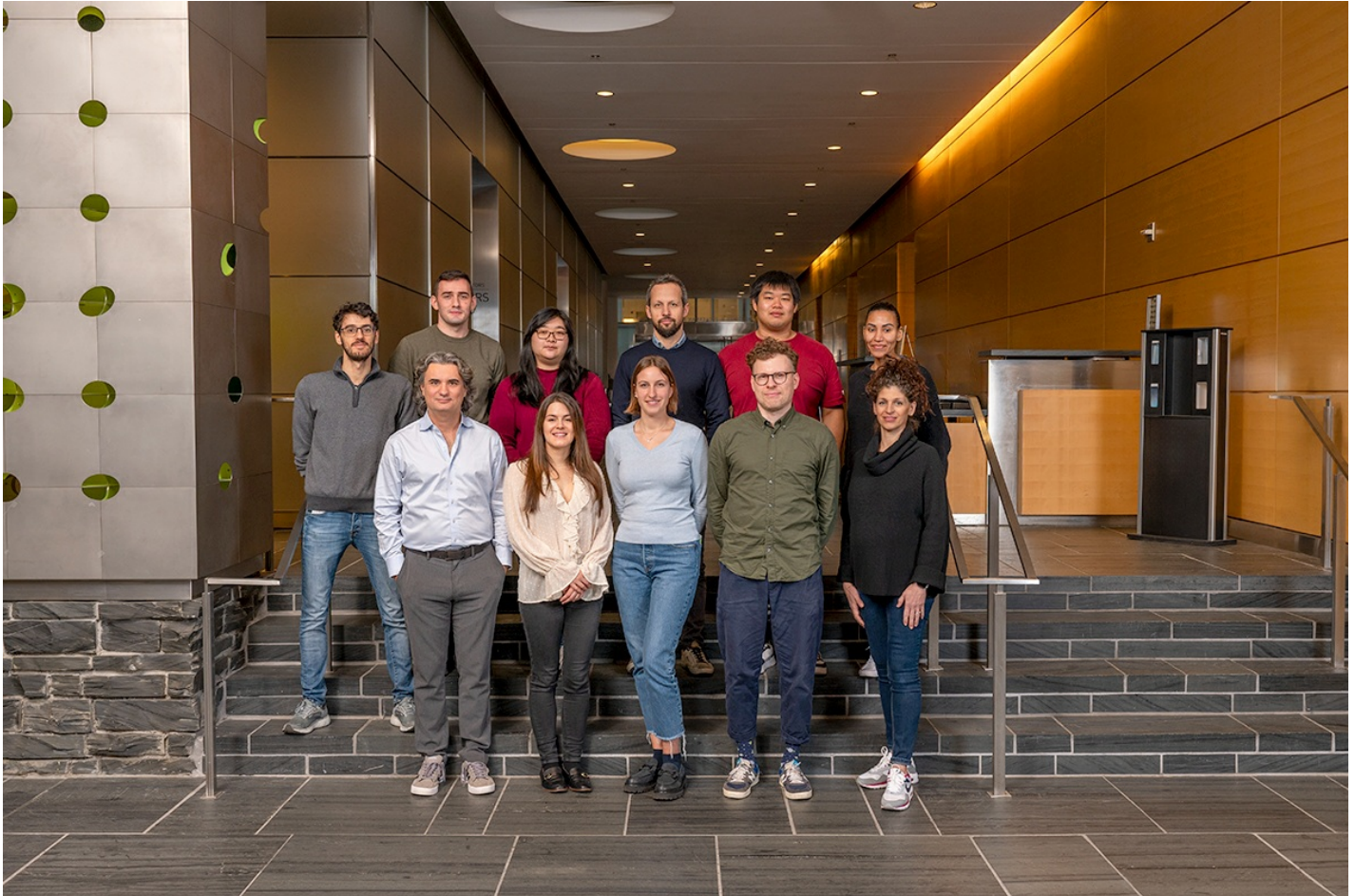
Andrea Ventura, MD, PhD

We use a combination of in vivo, in vitro, biochemical, and computational approaches to investigate various aspects of human cancer and development. Three broad biological domains we are currently exploring include extrachromosomal circular DNAs (ecDNAs), chromosomal rearrangements, and non-coding RNAs. In addition, we are making mechanistic insights into relevant cancer pathways via high-throughput genetic screens. To learn more, please see below or visit our webpage at: www.venturalaboratory.com .

[View Lab Overview \(https://www.mskcc.org/research/ski/labs/andrea-ventura/overview\)](https://www.mskcc.org/research/ski/labs/andrea-ventura/overview)

Research Projects

- [Modeling Extrachromosomal Oncogene Amplifications](#)
- [High-throughput Genetic Screens to Uncover Biological Mechanisms](#)
- [In vivo chromosome engineering using the CRISPR-Cas9 system](#)
- [Roles of non-coding RNAs in Cancer & Development](#)



Featured News



[At Work: Cancer Biologist Andrea Ventura](#)

Andrea Ventura's research is focused on microRNA expression, as he seeks to understand how small RNAs act on genes to promote or suppress cancer.



IN THE LAB

[Disorderly DNA: Researchers Simulate a Common Cause of Lung Cancer](#)

MSK scientists have created a mouse model that replicates a subtype of non-small cell lung cancer caused by a chromosomal rearrangement.



VIDEO

[A Look Inside the Geoffrey Beene Cancer Research Center](#)

Watch our scientists discuss how the Geoffrey Beene Center helped Memorial Sloan Kettering establish a progressive approach to modern cancer research.

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Publications Highlights

Davide Pradella, Minsi Zhang¹, Rui Gao, Melissa A. Yao, Katarzyna M. Gluchowska, Ylenia Cendon-Florez, Tanmay Mishra, Gaspare La Rocca, Moritz Weigl, Ziqi Jiao, Hieu H. M. Nguyen, Marta Lisi, Mateusz M. Ozimek, Chiara Mastroleo, Kevin Chen, Felix Grimm, Jens Luebeck, Shu Zhang, Andrea Alice Zolli, Eric G. Sun, Bhargavi Dameracharla, Zhengqiao Zhao, Yuri Pritykin, Carlie Sigel, Howard Y. Chang, Paul S. Mischel, Vineet Bafna, Cristina R. Antonescu & Andrea Ventura. Engineered extrachromosomal oncogene amplifications promote tumorigenesis. [Nature 637, 955–964 \(2025\)](#) . PMID: 39695225.

Li X, Pritykin Y, Concepcion CP, Lu Y, La Rocca G, Zhang M, King B, Cook PJ, Au YW, Popow O, Paulo JA, Otis HG, Mastroleo C, Ogradowski P, Schreiner R, Haigis KM, Betel D, Leslie CS, Ventura A. High-Resolution In Vivo Identification of miRNA Targets by Halo-

Enhanced Ago2 Pull-Down. [Molecular Cell 2020 May 29: S1097-2765\(20\)30310-5. doi: 10.1016/j.molcel.2020.05.009.](#) Epub ahead of print. PMID: 32497496.

Perez, A.&, Pritykin, Y.&, Vidigal, J.&*, Chhangawala, S., Zamparo, L., Leslie, C.* , and Ventura, A. GuideScan software for improved single and paired CRISPR guide RNA design. [Nature Biotechnology 2017 Apr;35\(4\):347-349.](#) PMID: 28263296. PMCID: PMC5607865 (* corresponding authors, & equally contributing authors)

Danilo Maddalo, Eusebio Manchado, Carla P. Concepcion, Ciro Bonetti, Joana A. Vidigal, Yoon-Chi Han, Paul Ogradowski, Alessandra Crippa, Natasha Rekhtman, Elisa de Stanchina, Scott W. Lowe, and Andrea Ventura. In vivo engineering of oncogenic chromosomal rearrangements with the CRISPR/Cas9 system. [Nature \(2014\)](#) NIHMS:NIHMS632589 PMID: PMID: 25337876.

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People



Andrea Ventura, MD, PhD

- Cancer biologist Andrea Ventura studies DNA structural rearrangements and non-coding RNAs in cancer and development.
- MD, Catholic University of Rome (Italy)
- PhD, European Institute of Oncology (Milan Italy), Open University (London, UK)
- Postdoctoral, Center for Cancer Research, Massachusetts Institute of Technology (Cambridge, MA)

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Members



Andrea Ventura



Giorgia Alessio
Visiting Graduate Student

Lab
Alumni

Lab Affiliations

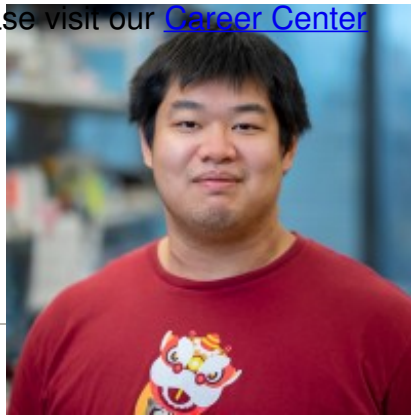
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Ylenia Cendon Florez
Research Scholar

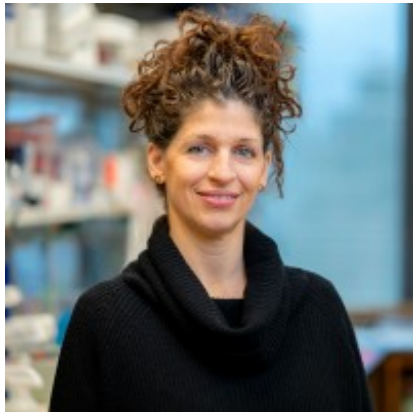


Ziqi Jiao
GSK Graduate Student

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

Career Opportunities

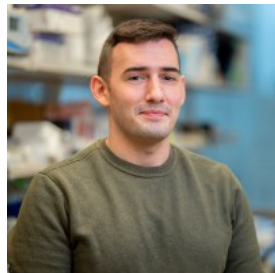
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Research Technician, Sr.
Tanmay Mishra
WCGS Graduate Student



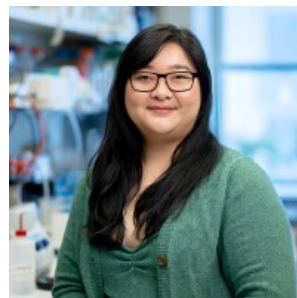
Jayden McDonald
MSK Bridge Program Scholar



Mateusz Ozimek
Research Technician

Eric Sun
MD/PhD Student
Yu Xia
Research Technician

Sara Tavella
Research Associate



Melissa Yao
GSK Graduate Student

Minsi Zhang [now \(https://www.mskcc.org/research/ski/labs/andrea-ventura/career-opportunities\)](https://www.mskcc.org/research/ski/labs/andrea-ventura/career-opportunities)
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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 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.

Andrea Ventura discloses the following relationships and financial interests:

No disclosures meeting criteria for time period

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.

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