Stanford



# Siddhartha Jaiswal

Associate Professor of Pathology

Curriculum Vitae available Online


**CLINICAL OFFICE (PRIMARY)**

- **Department of Pathology**

  300 Pasteur Dr Rm L235

  MC 5324

  Stanford, CA 94305

  **Tel** (650) 723-7211 **Fax** (650) 723-7409


## Bio

### BIO

Dr. Jaiswal's lab focuses on understanding the biology of the aging hematopoietic system. As a post-doctoral fellow, he identified a common, pre-malignant state for blood cancers by reanalysis of large sequencing datasets. This condition, termed "clonal hematopoiesis", is characterized by the presence of stem cell clones harboring certain somatic mutations, primarily in genes involved in epigenetic regulation of hematopoiesis. Clonal hematopoiesis is prevalent in the aging population and increases the risk of not only blood cancer, but also cardiovascular disease and overall mortality. Understanding the biology of these mutations and how they contribute to the development of cancer and other age-related diseases is the current focus of work in the lab. These studies utilize genetic and clinical information from large population-based cohorts to understand the impact of clonal hematopoiesis in humans. The effect of the mutations causing clonal hematopoiesis is also studied in human and mouse tissues through a combination of genomic profiling, functional assays, and mouse models of disease.

### CLINICAL FOCUS

- Transfusion Medicine
- Genomics and Molecular Pathology
- Anatomic and Clinical Pathology

### ACADEMIC APPOINTMENTS

- Associate Professor, Pathology
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Institute for Stem Cell Biology and Regenerative Medicine
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

### HONORS AND AWARDS

- New Innovator Award, National Institutes of Health (2020)
- ASH Scholar Award, American Society of Hematology (2020)
- Transatlantic Network of Excellence, Foundation Leducq (2018)
- Career Award for Medical Scientists, Burroughs Wellcome Fund (2016)
- BroadIgnite Scholar, Broad Institute of MIT and Harvard (2016)
- Paul E. Strandjord Young Investigator Award, ACLPS (2014)
- Firestone Medal for Excellence in Research, Stanford University (2000)
- Phi Beta Kappa, Stanford University (2000)

### PROFESSIONAL EDUCATION

- Medical Education: Stanford University School of Medicine (2010) CA
- Board Certification: Clinical Pathology, American Board of Pathology (2017)
- Fellowship, Harvard Medical School , Transfusion Medicine (2013)
- Residency, Massachusetts General Hospital , Clinical Pathology (2014)
- PhD, Stanford University School of Medicine , Immunology (2010)
- MD, Stanford University School of Medicine (2010)
- BS, Stanford University , Biological Sciences (2000)

### PATENTS

- Siddhartha Jaiswal, Irving L. Weissman, Ravindra Majeti, Mark P. Chao. "United States Patent 8562997 B2 Methods of treating acute myeloid leukemia by blocking CD47", The Board Of Trustees Of The Leland Stanford Junior University, Oct 22, 2013

### LINKS

- Google Scholar Profile: https://scholar.google.com/citations?hl=en&user=xvEYvfUAAAAJ&view_op=list_works&gmla=AJsN-F6kuCVHiYZ1RP7tWJmNSh0fVIEr9RM3FWu1CH1QTfKOGXYPrmH4Dwsq957bmYNf-NtvrMrAUEatfFuV0pk2KbVN_lbHwoLhGHhn96QiIgI5zl3lP64
- Lab Website: https://www.jaiswallab.org
- Twitter: https://twitter.com/jaiswalmdphd

## Research & Scholarship

### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Somatic Mutations in Aging

Aging is associated with an increased incidence of cancer and several other diseases. As a post-doctoral fellow, Dr. Jaiswal identified a common age-related disorder of the blood characterized by the acquisition of certain somatic mutations in hematopoietic stem cells (Jaiswal et al., NEJM 2014). These mutations allow stem cell clones to expand relative to normal stem cells; this clonal expansion is termed "clonal hematopoiesis of indeterminate potential", or CHIP (Steensma et al., Blood 2015).

The most commonly found mutations in CHIP are in genes involved in epigenetic regulation (DNMT3A, TET2, ASXL1). CHIP is very rare in the young, but becomes common with aging. Between 10-30% of the elderly have a clonal mutation meeting the definition of CHIP. Those with CHIP are at markedly increased risk of developing hematological malignancies such as myelodysplastic syndrome, acute myeloid leukemia, and lymphoma.

Surprisingly, CHIP is also associated with increased risk of atherosclerotic cardiovascular disease, and this relationship is thought to be causal based on mouse models (Jaiswal et al., NEJM 2017). Mechanistically, the mutations in CHIP lead to increased expression of inflammatory gene modules in mature immune cells such as macrophages. These immune effector cells are derived from the mutated hematopoietic stem cells in the marrow, hence they also harbor the CHIP-related mutations.

These observations suggest that somatic mutations in hematopoietic stem cells that arise during aging may have a variety of effects on health. The lab seeks to understand the biology and clinical impact of these mutations, as described in the projects below.

### PROJECTS

- Using human population genetics to learn the health associations of clonal hematopoiesis.
- Mechanistic studies on the role of DNA methylation in clonal expansion of stem cells and dysregulated inflammation.
- Characterization of hematopoietic and immune cell subsets from humans with CHIP.
- Identification of novel therapeutics to treat CHIP and/or its associated diseases.

## Teaching

### COURSES

**2026-27**

- Biology and Disease of Hematopoiesis: IMMUNOL 223 (Win)
- Rebuilding the Brain: From Neurodevelopment to Neuromodulation: BIOS 203 (Aut)

**2024-25**

- Biology and Disease of Hematopoiesis: IMMUNOL 223, STEMREM 223 (Win)

**2023-24**

- Biology and Disease of Hematopoiesis: IMMUNOL 223, STEMREM 223 (Win)

### STANFORD ADVISEES

**Med Scholar Project Advisor**

Jk Gopakumar

**Doctoral Dissertation Reader (AC)**

Jessica Arozqueta Basurto, James Chavez, Cassandra Stawicki

**Postdoctoral Faculty Sponsor**

Christopher Arends, Julia Belk, Dipabarna Bhattacharya, Debasmita Paul, Gangpyo Ryu, Isak Tengesdal, Yichao Zhou

**Doctoral Dissertation Advisor (AC)**

Jk Gopakumar, Eugenia Wang

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (PhD Program)
- Immunology (PhD Program)
- Stem Cell Biology and Regenerative Medicine (PhD Program)

# Publications

## PUBLICATIONS

- **Somatic mutations reveal the ontogeny of microglia in human ageing.** *Nature*
  Belk, J. A., Zhang, Y., Reilly, E. E., Shi, Q., Liu, D. D., Womack-Gambrel, N., van der Linde, M., Ma, L., Paul, D., Enciso, A. M., Kalluru, R., Weiss, J., Li, et al
  2026

- **Loss-of-function mutations in Dnmt3a and Tet2 lead to accelerated atherosclerosis and concordant macrophage phenotypes.** *Nature cardiovascular research*
  Rauch, P. J., Gopakumar, J., Silver, A. J., Nachun, D., Ahmad, H., McConkey, M., Nakao, T., Bosse, M., Rentz, T., Vivanco Gonzalez, N., Greenwald, N. F., McCaffrey, E. F., Khair, et al
  2023; 2 (9): 805-818

- **Clonal hematopoiesis is associated with protection from Alzheimer's disease.** *Nature medicine*
  Bouzid, H., Belk, J. A., Jan, M., Qi, Y., Sarnowski, C., Wirth, S., Ma, L., Chrostek, M. R., Ahmad, H., Nachun, D., Yao, W., Beiser, A., Bick, et al
  2023

- **Aberrant activation of TCL1A promotes stem cell expansion in clonal haematopoiesis.** *Nature*
  Weinstock, J. S., Gopakumar, J., Burugula, B. B., Uddin, M. M., Jahn, N., Belk, J. A., Bouzid, H., Daniel, B., Miao, Z., Ly, N., Mack, T. M., Luna, S. E., Prothro, et al
  2023

- **Clonal hematopoiesis in human aging and disease** *SCIENCE*
  Jaiswal, S., Ebert, B. L.
  2019; 366 (6465): 586-+

- **PPM1D-truncating mutations confer resistance to chemotherapy and sensitivity to PPM1D inhibition in hematopoietic cells** *BLOOD*
  Kahn, J. D., Miller, P. G., Silver, A. J., Sellar, R. S., Bhatt, S., Gibson, C., McConkey, M., Adams, D., Mar, B., Mertins, P., Fereshetian, S., Krug, K., Zhu, et al
  2018; 132 (11): 1095–1105

- **Clonal Hematopoiesis and Risk of Atherosclerotic Cardiovascular Disease.** *The New England journal of medicine*
  Jaiswal, S., Natarajan, P., Silver, A. J., Gibson, C. J., Bick, A. G., Shvartz, E., McConkey, M., Gupta, N., Gabriel, S., Ardissino, D., Baber, U., Mehran, R., Fuster, et al
  2017; 377 (2): 111-121

- **Clonal hematopoiesis of indeterminate potential and its distinction from myelodysplastic syndromes** *BLOOD*
  Steensma, D. P., Bejar, R., Jaiswal, S., Lindsley, R. C., Sekeres, M. A., Hasserjian, R. P., Ebert, B. L.
  2015; 126 (1): 9-16

- **Age-Related Clonal Hematopoiesis Associated with Adverse Outcomes** *NEW ENGLAND JOURNAL OF MEDICINE*
  Jaiswal, S., Fontanillas, P., Flannick, J., Manning, A., Grauman, P. V., Mar, B. G., Lindsley, R. C., Mermel, C. H., Burtt, N., Chavez, A., Higgins, J. M., Moltchanov, V., Kuo, et al
  2014; 371 (26): 2488-2498

- **CD47 Is Upregulated on Circulating Hematopoietic Stem Cells and Leukemia Cells to Avoid Phagocytosis** *CELL*
  Jaiswal, S., Jamieson, C. H., Pang, W. W., Park, C. Y., Chao, M. P., Majeti, R., Traver, D., van Rooijen, N., Weissman, I. L.
  2009; 138 (2): 271-285

- **Clonal Hematopoiesis of Indeterminate Potential and Kidney Failure in Chronic Kidney Disease: An East Asian Cohort Study.** *Clinical journal of the American Society of Nephrology : CJASN*
  Kim, M., An, S., Ryu, H., Sun, C., An, H. Y., Ryu, G., Kim, J., Kim, Y., Kim, S. W., Kim, Y. H., Jaiswal, S., Koh, Y., Oh, et al
  2026

- **Clonal Hematopoiesis and Risk of Trastuzumab-Related Cardiotoxic Effects.** *JAMA oncology*
  Park, C. S., Ryu, G., Ahn, H. J., Sun, C., Lee, S. P., Kim, H. K., Kim, Y. J., Jeon, S. Y., Lee, H. B., Moon, H. G., Han, W., Lee, D. W., Lee, et al
  2026

- **Clonal hematopoiesis associates with prevalent and incident cardiometabolic disease in a cardiac catheterization cohort** *PLOS ONE*
  Regan, J. A., Kwee, L., Nafissi, N. A., Bick, A. G., Kraus, W. E., Natarajan, P., Jaiswal, S., Shah, S. H.
  2026; 21 (2): e0339491
- **Metformin does not significantly alter longitudinal dynamics of clonal hematopoiesis.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
  Pareek, E., Pershad, Y., Zhao, K., Uddin, M. M., Xue, L., Vlasschaert, C., Mack, T. M., Haessler, J., Collins, J. M., Glick, E., Glaser, V., Heise, R., Ling, et al
  2026
- **Clonal hematopoiesis: elements associated with clonal expansion and diseases** *BLOOD RESEARCH*
  Ryu, G., Koh, Y., Jaiswal, S., Yoon, S.
  2025; 60 (1): 17
- **Human plasma proteomic profile of clonal hematopoiesis.** *Nature communications*
  Yu, Z., Vromman, A., Nguyen, N. Q., Schuermans, A., Li, L., Rentz, T., Nakao, T., Vellarikkal, S. K., Uddin, M. M., Niroula, A., Griffin, G., Honigberg, M. C., Lin, et al
  2025
- **Environmental Pollution Triggers Inflammation In Vivo and is Associated With Higher Risk MDS in an Urban Cohort.** *American journal of hematology*
  Verma, M., Davidsohn, M. P., Arends, C. M., Verma, D., Sahu, S., Pradhan, K., Dehghani, S. S., Murli, H., Jasra, S., Aggarwal, R. K., Zhang, H., Wysota, M., Hosgood, et al
  2025
- **The CD33 SNP rs3865444 modulates the association of clonal hematopoiesis with Alzheimer's disease**
  Arends, C., Mitchell, S., Bynum, A., Bhattacharya, D., Belk, J., Nachun, D., Jaiswal, S.
  ELSEVIER.2025: 1401-1402
- **PhosphatidylCholine synthesis inhibition diminishes ASXL1 and DNMT3a mutation driven clonal hematopoiesis**
  Gheller, B., Mitchell, O., Avagyan, S., Gopakumar, J., Quach, M., Camargo, F., Jaiswal, S., Zon, L.
  ELSEVIER.2025: 973-974
- **TCLIA polymorphism predicts AML progression in myeloid neoplasms**
  Molina, A., Jensen, A., Gopakumar, J., Khanna, V., Stehr, H., Jaiswal, S., Greenberg, P.
  ELSEVIER.2025: 3854-3855
- **Development of methods for enriching microglia nuclei from frozen brain samples to study the effect of CHIP on Alzheimer's disease**
  Bhattacharya, D., Weiss, J., Enciso, A., Paul, D., Bynum, A., Zhang, Y., Nachun, D., Jaiswal, S.
  ELSEVIER.2025: 4947-4948
- **Genetic determinants and genomic consequences of non-leukemogenic somatic point mutations.** *Nature communications*
  Weinstock, J. S., Chaudhry, S. A., Ioannou, M., Viskadourou, M., Reventun, P., Jakubek, Y. A., Liggett, L. A., Laurie, C., Broome, J. G., Khan, A., Taylor, K. D., Guo, X., Peyser, et al
  2025; 16 (1): 9194
- **Clonal hematopoiesis of indeterminate potential and the risk of cognitive impairment in the Women's Health Initiative Memory Study.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
  Jakubek, Y. A., Smith, A. P., Leng, X. I., Hall, M. E., Ezzat, D., Pershad, Y., Collins, J. M., Uddin, M. M., Fardo, D. W., Natarajan, P., Bick, A. G., Kitzman, J. O., Honigberg, et al
  2025; 21 (10): e70737
- **Clonal Hematopoiesis in Nonmalignant Disease: Functional Consequences of Mutated Immune Cells by Clonal Hematopoiesis in the Diseased Tissue.** *Annual review of pathology*
  Koh, Y., Tengesdal, I. W., Jaiswal, S.
  2025
- **Clonal haematopoiesis of indeterminate potential and mortality in coronary artery disease.** *European heart journal*
  von Scheidt, M., Adkar, S. S., Krefting, J., Hoermann, G., Meggendorfer, M., Bauer, S., Mitchell, S., Pugach, I., Friess, C., Ma, A., Hao, K., Steigerwald, S., Wahle, et al
  2025

- **Clonal Hematopoiesis and Cardiovascular Outcomes in Older Women.** *Journal of the American College of Cardiology*
  Ezzat, D., Uddin, M. M., Xue, L., Pershad, Y., Zhang, S., Collins, J. M., Kitzman, J. O., Jaiswal, S., Desai, P., Kooperberg, C., Bick, A. G., Natarajan, P., Manson, et al
  2025
- **TET2-mutant myeloid cells mitigate Alzheimer's disease progression via CNS infiltration and enhanced phagocytosis in mice.** *Cell stem cell*
  Matatall, K. A., Wathan, T. K., Nguyen, M., Chen, H., McDonald, A., Qi, G., Belk, J. A., Florez, M. A., Le, D. T., Olarinde, T., Vlasschaert, C., Buttigieg, M. M., Fan, et al
  2025
- **Correlates and Consequences of Clonal Hematopoiesis Expansion Rate: A 16-Year Longitudinal Study of 6976 Women.** *Blood*
  Pershad, Y., Uddin, M. M., Xue, L., Haessler, J., Collins, J. M., Mack, T., Glick, E., Glaser, V., Zhao, K., Jaiswal, S., Manson, J. E., Pandey, U., Desai, et al
  2025
- **Mutant macrophages CHIP in to help solid tumors** *CELL*
  Tengesdal, I. W., Jaiswal, S.
  2025; 188 (9): 2309-2311
- **Optimized Workflow for Unbiased Massively Parallel Single Cell Profiling in Human Brain Samples from Autopsy**
  Reilly, E., Belk, J., Eastman, A., Womack, N., Enciso, A., Kalluru, R., Raj, S., Weissman, I., Jaiswal, S., Hooper, J.
  ELSEVIER SCIENCE INC.2025
- **Dual Fresh/Fixed Tissue Workflow for Novel Cell Type Validation in Human Brains Donated for Rapid Research Autopsy**
  Reilly, E., Eastman, A., Womack, N., Belk, J., Liu, D., Raj, S., Jaiswal, S., Weissman, I., Hooper, J.
  ELSEVIER SCIENCE INC.2025
- **Single cell RNA sequencing of hematopoietic cells in fresh and frozen human atheroma tissue.** *Cardiovascular research*
  Ahmad, H., Gopakumar, J. K., Nachun, D. C., Ma, L., D'Addabbo, J., Huang, X., Koyano, T., Boyd, J., Woo, Y. J., Fong, R., Aalami, O., Nguyen, P. K., Jaiswal, et al
  2025
- **Increased local DNA methylation disorder in AMLs with DNMT3A-destabilizing variants and its clinical implication.** *Nature communications*
  Lee, D., Koo, B., Kim, S., Byun, J., Hong, J., Shin, D. Y., Sun, C. H., Kim, J., Song, J. J., Jaiswal, S., Yoon, S. S., Kim, S., Koh, et al
  2025; 16 (1): 560
- **A blueprint for pursuing therapeutic interventions and early phase clinical trials in clonal haematopoiesis.** *British journal of haematology*
  Haque, T., Shastri, A., Desai, P., Xie, Z., Hammond, D., King, Z., Kishtagari, A., Madanat, Y. F., Abaza, Y., Silver, A. J., Singh, A., Borate, U. M., Heimlich, et al
  2024
- **Human Plasma Proteomic Profile of Clonal Hematopoiesis.** *bioRxiv : the preprint server for biology*
  Yu, Z., Vromman, A., Nguyen, N. Q., Schuermans, A., Rentz, T., Vellarikkal, S. K., Uddin, M. M., Niroula, A., Griffin, G., Honigberg, M. C., Lin, A. E., Gibson, C. J., Katz, et al
  2024
- **Clonal hematopoiesis of indeterminate potential and cardiovascular disease: Pathogenesis, clinical presentation, and future directions.** *Progress in cardiovascular diseases*
  Gajagowni, S., Hopkins, S., Qadeer, Y., Virani, S. S., Verdonschot, J. A., Coombs, C. C., Amos, C. I., Nead, K. T., Jaiswal, S., Krittanawong, C.
  2024
- **Gene-Specific Machine Learning Models to Classify Driver Mutations in Clonal Hematopoiesis.** *Cancer discovery*
  Arends, C. M., Jaiswal, S.
  2024; 14 (9): 1581-1583
- **Impact of Clonal Hematopoiesis on the Carcinogenic Process of Multiple Myeloma**
  Koh, Y., Park, C., Cho, G., Ryu, G., Park, J., Yoon, H., Oh, Y., Lee, C., An, H., Sun, C., Jung, S., Lee, J., Kim, et al
  CIG MEDIA GROUP, LP.2024: S16-S17
- **The Genetic Determinants and Genomic Consequences of Non-Leukemogenic Somatic Point Mutations.** *medRxiv : the preprint server for health sciences*

Weinstock, J. S., Chaudhry, S. A., Ioannou, M., Viskadourou, M., Reventun, P., Jakubek, Y. A., Alexander Liggett, L., Laurie, C., Broome, J. G., Khan, A., Taylor, K. D., Guo, X., Peyser, et al
2024

- **Dynamics of clonal hematopoiesis and risk of hematologic malignancy.** *International journal of hematology*
  Arends, C. M., Jaiswal, S.
  2024

- **In Memoriam: Charles Chan.** *Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research*
  Ambrosi, T. H., Jaiswal, S., Greenblatt, M. B.
  2024

- **Epigenetic and proteomic signatures associate with clonal hematopoiesis expansion rate.** *Nature aging*
  Mack, T. M., Raddatz, M. A., Pershad, Y., Nachun, D. C., Taylor, K. D., Guo, X., Shuldiner, A. R., O'Connell, J. R., Kenny, E. E., Loos, R. J., Redline, S., Cade, B. E., Psaty, et al
  2024

- **Determinants of mosaic chromosomal alteration fitness.** *Nature communications*
  Pershad, Y., Mack, T., Poisner, H., Jakubek, Y. A., Stilp, A. M., Mitchell, B. D., Lewis, J. P., Boerwinkle, E., Loos, R. J., Chami, N., Wang, Z., Barnes, K., Pankratz, et al
  2024; 15 (1): 3800

- **Radon Exposure, Clonal Hematopoiesis, and Stroke Susceptibility in the Women's Health Initiative.** *Neurology*
  Anthony, K. M., Collins, J. M., Love, S. M., Stewart, J. D., Buchheit, S. F., Gondalia, R., Schwartz, G. G., Huang, D. Y., Meliker, J. R., Zhang, Z., Barac, A., Desai, P., Hayden, et al
  2024; 102 (2): e208055

- **Clonal haematopoiesis of indeterminate potential and atrial fibrillation: an east Asian cohort study.** *European heart journal*
  Ahn, H. J., An, H. Y., Ryu, G., Lim, J., Sun, C., Song, H., Choi, S. Y., Lee, H., Maurer, T., Nachun, D., Kwon, S., Lee, S. R., Lip, et al
  2024

- **Individual and Neighborhood-level Socioeconomic Status and Somatic Mutations Associated With Increased Risk of Cardiovascular Disease and Mortality: A Cross-Sectional Analysis in the Women's Health Initiative.** *Women's health issues : official publication of the Jacobs Institute of Women's Health*
  Love, S. M., Collins, J. M., Anthony, K. M., Buchheit, S. F., Butler, E. N., Bey, G. S., Gondalia, R., Hayden, K. M., Zannas, A. S., Bick, A. G., Manson, J. E., Desai, P. M., Natarajan, et al
  2023

- **Clonal haematopoiesis of indeterminate potential predicts incident cardiac arrhythmias.** *European heart journal*
  Schuermans, A., Vlasschaert, C., Nauffal, V., Cho, S. M., Uddin, M. M., Nakao, T., Niroula, A., Klarqvist, M. D., Weeks, L. D., Lin, A. E., Saadatagah, S., Lannery, K., Wong, et al
  2023

- **Genetic modification of inflammation and clonal hematopoiesis-associated cardiovascular risk.** *The Journal of clinical investigation*
  Yu, Z., Filder, T. P., Ruan, Y., Vlasschaert, C., Nakao, T., Uddin, M. M., Mack, T., Niroula, A., Heimlich, J. B., Zekavat, S. M., Gibson, C. J., Griffin, G. K., Wang, et al
  2023

- **Clonal Hematopoiesis of Indeterminate Potential Predicts Adverse Outcomes in Patients With Atherosclerotic Cardiovascular Disease** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
  Gumuser, E. D., Schuermans, A., Cho, S., Sporn, Z. A., Uddin, M., Paruchuri, K., Nakao, T., Yu, Z., Haidermota, S., Hornsby, W., Weeks, L. D., Niroula, A., Jaiswal, et al
  2023; 81 (20): 1996-2009

- **Clonal haematopoiesis and atherosclerotic cardiovascular disease** *NATURE REVIEWS CARDIOLOGY*
  Ahmad, H., Jaiswal, S.
  2023; 20 (7): 437-438

- **Prediction of risk for myeloid malignancy in clonal hematopoiesis.** *NEJM evidence*
  Weeks, L. D., Niroula, A., Neuberg, D., Wong, W., Lindsley, R. C., Luskin, M., Berliner, N., Stone, R. M., DeAngelo, D. J., Soiffer, R., Uddin, M. M., Griffin, G., Vlasschaert, et al

2023; 2 (5)

- **The genetic determinants of recurrent somatic mutations in 43,693 blood genomes.** *Science advances*
  Weinstock, J. S., Laurie, C. A., Broome, J. G., Taylor, K. D., Guo, X., Shuldiner, A. R., O'Connell, J. R., Lewis, J. P., Boerwinkle, E., Barnes, K. C., Chami, N., Kenny, E. E., Loos, et al
  2023; 9 (17): eabm4945

- **Clonal haematopoiesis and risk of chronic liver disease.** *Nature*
  Wong, W. J., Emdin, C., Bick, A. G., Zekavat, S. M., Niroula, A., Pirruccello, J. P., Dichtel, L., Griffin, G., Uddin, M. M., Gibson, C. J., Kovalcik, V., Lin, A. E., McConkey, et al
  2023

- **A practical approach to curate clonal hematopoiesis of indeterminate potential in human genetic datasets.** *Blood*
  Vlasschaert, C., Mack, T., Heimlich, J. B., Niroula, A., Uddin, M. M., Weinstock, J. S., Sharber, B., Silver, A. J., Xu, Y., Savona, M. R., Gibson, C. J., Lanktree, M. B., Rauh, et al
  2023

- **Birth Weight Is Associated With Clonal Hematopoiesis of Indeterminate Potential and Cardiovascular Outcomes in Adulthood.** *Journal of the American Heart Association*
  Schuermans, A., Nakao, T., Ruan, Y., Koyama, S., Yu, Z., Uddin, M. M., Haidermota, S., Hornsby, W., Lewandowski, A. J., Bick, A. G., Niroula, A., Jaiswal, S., Ebert, et al
  2023; 12 (13): e030220

- **Clonal Hematopoiesis and Its Impact on Human Health.** *Annual review of medicine*
  Ahmad, H., Jahn, N., Jaiswal, S.
  2022

- **Prediction of Risk for Myeloid Malignancy in Clonal Hematopoiesis**
  Weeks, L. D., Niroula, A., Neuberg, D. S., Wong, W. J., Lindsley, R., Luskin, M. R., Berliner, N., Stone, R. M., DeAngelo, D. J., Soiffer, R. J., Uddin, M., Gibson, C. J., Bick, et al
  AMER SOC HEMATOLOGY.2022: 2229-2231

- **Genomic Profiling for Clinical Decision Making in Myeloid Neoplasms and Acute Leukemia.** *Blood*
  Duncavage, E. J., Bagg, A., Hasserjian, R. P., DiNardo, C. D., Godley, L. A., Iacobucci, I., Jaiswal, S., Malcovati, L., Vannucchi, A. M., Patel, K. P., Arber, D. A., Arcila, M. E., Bejar, et al
  2022

- **Clonal hematopoiesis of indeterminate potential, DNA methylation, and risk for coronary artery disease.** *Nature communications*
  Uddin, M. D., Nguyen, N. Q., Yu, B., Brody, J. A., Pampana, A., Nakao, T., Fornage, M., Bressler, J., Sotoodehnia, N., Weinstock, J. S., Honigberg, M. C., Nachun, D., Bhattacharya, et al
  2022; 13 (1): 5350

- **TET2-mutant clonal hematopoiesis and risk of gout.** *Blood*
  Agrawal, M., Niroula, A., Cunin, P., McConkey, M., Kovalcik, V., Kim, P. G., Wong, W. J., Weeks, L. D., Lin, A. E., Miller, P. G., Gibson, C. J., Sekar, A., Schaefer, et al
  2022

- **Modeling the temporal dynamics of clonal hematopoiesis** *NATURE CARDIOVASCULAR RESEARCH*
  Jaiswal, S., Bick, A. G.
  2022; 1 (6): 537-538

- **Modeling the temporal dynamics of clonal hematopoiesis.** *Nature cardiovascular research*
  Jaiswal, S., Bick, A. G.
  2022; 1 (6): 537-538

- **Longitudinal profiling of clonal hematopoiesis provides insight into clonal dynamics** *IMMUNITY & AGEING*
  Uddin, M., Zhou, Y., Bick, A. G., Burugula, B., Jaiswal, S., Desai, P., Honigberg, M. C., Love, S., Barac, A., Hayden, K. M., Manson, J. E., Whitsel, E. A., Kooperberg, et al
  2022; 19 (1): 23

- **Human Coronary Plaque T Cells Are Clonal and Cross-React to Virus and Self.** *Circulation research*

Roy Chowdhury, R., D'Addabbo, J., Huang, X., Veizades, S., Sasagawa, K., Louis, D. M., Cheng, P., Sokol, J., Jensen, A., Tso, A., Shankar, V., Wendel, B. S., Bakerman, et al

2022: 101161CIRCRESAHA121320090

- **Mendelian randomization supports bidirectional causality between telomere length and clonal hematopoiesis of indeterminate potential.** *Science advances*

  Nakao, T., Bick, A. G., Taub, M. A., Zekavat, S. M., Uddin, M. M., Niroula, A., Carty, C. L., Lane, J., Honigberg, M. C., Weinstock, J. S., Pampana, A., Gibson, C. J., Griffin, et al

  2022; 8 (14): eabl6579

- **Clonal Hematopoiesis Analyses in Clinical, Epidemiologic, and Genetic Aging Studies to Unravel Underlying Mechanisms of Age-Related Dysfunction in Humans.** *Frontiers in aging*

  Walsh, K., Raghavachari, N., Kerr, C., Bick, A. G., Cummings, S. R., Druley, T., Dunbar, C. E., Genovese, G., Goodell, M. A., Jaiswal, S., Maciejewski, J., Natarajan, P., Shindyapina, et al

  2022; 3: 841796

- **Clonal Hematopoiesis: Confluence of Malignant and Nonmalignant Diseases** *ANNUAL REVIEW OF CANCER BIOLOGY*

  Lin, A. E., Rauch, P. J., Jaiswal, S., Ebert, B. L.

  2022; 6: 187-200

- **Dnmt3a-mutated clonal hematopoiesis promotes osteoporosis.** *The Journal of experimental medicine*

  Kim, P. G., Niroula, A., Shkolnik, V., McConkey, M., Lin, A. E., Slabicki, M., Kemp, J. P., Bick, A., Gibson, C. J., Griffin, G., Sekar, A., Brooks, D. J., Wong, et al

  2021; 218 (12)

- **Clonal Hematopoiesis is Associated with Reduced Risk of Alzheimer's Disease**

  Bouzid, H., Belk, J., Jan, M., Qi, Y., Sarnowski, C., Wirth, S., Ma, L., Chrostek, M., Ahmad, H., Nachun, D., Yao, W., Beiser, A., Bick, et al

  AMER SOC HEMATOLOGY.2021

- **Clonal Hematopoiesis Is Driven By Aberrant Activation of TCL1A**

  Gopakumar, J. K., Weinstock, J., Burugula, B. B., Jahn, N., Kooperberg, C., Desai, P., Natarajan, P., Kitzman, J. O., Reiner, A., Bick, A. G., Jaiswal, S.

  AMER SOC HEMATOLOGY.2021

- **ZBTB33 is mutated in clonal hematopoiesis and myelodysplastic syndromes and impacts RNA splicing.** *Blood cancer discovery*

  Beauchamp, E. M., Leventhal, M., Bernard, E., Hoppe, E. R., Todisco, G., Creignou, M., Gallì, A., Castellano, C. A., McConkey, M., Tarun, A., Wong, W., Schenone, M., Stanclift, et al

  2021; 2 (5): 500-517

- **Infection makes micro-CHIPs into macro-CHIPs.** *Cell stem cell*

  Gopakumar, J., Jaiswal, S.

  2021; 28 (8): 1335-1336

- **Clonal hematopoiesis associated with epigenetic aging and clinical outcomes.** *Aging cell*

  Nachun, D., Lu, A. T., Bick, A. G., Natarajan, P., Weinstock, J., Szeto, M. D., Kathiresan, S., Abecasis, G., Taylor, K. D., Guo, X., Tracy, R., Durda, P., Liu, et al

  2021: e13366

- **Inherited causes of clonal haematopoiesis in 97,691 whole genomes (vol 586 , pg 763, 2020)** *NATURE*

  Bick, A. G., Weinstock, J. S., Nandakumar, S. K., Fulco, C. P., Bao, E. L., Zekavat, S. M., Szeto, M. D., Liao, X., Leventhal, M. J., Nasser, J., Chang, K., Laurie, C., Burugula, et al

  2021; 591 (7851): E27

- **Insights into clonal hematopoiesis and its relation to cancer risk.** *Current opinion in genetics & development*

  Mitchell, S. R., Gopakumar, J., Jaiswal, S.

  2021; 66: 63–69

- **Association of Clonal Hematopoiesis with Chronic Obstructive Pulmonary Disease.** *Blood*

  Miller, P., Qiao, D., Rojas-Quintero, J., Honigberg, M. C., Sperling, A. S., Gibson, C. J., Bick, A. G., Niroula, A., McConkey, M. E., Sandoval, B., Miller, B., Shi, W., Viswanathan, et al

  2021

- **Preventive Cardio-Oncology: Cardiovascular Disease Prevention in Cancer Patients and Survivors** *CURRENT TREATMENT OPTIONS IN CARDIOVASCULAR MEDICINE*
  Iacopo, F., Branch, M., Cardinale, D., Middeldorp, M., Sanders, P., Cohen, J. B., Achirica, M., Jaiswal, S., Brown, S.
  2021; 23 (1)
- **Clonal hematopoiesis and nonhematologic disorders** *BLOOD*
  Jaiswal, S.
  2020; 136 (14): 1606–14
- **Genetic regulation of gene expression and splicing during a 10-year period of human aging.** *Genome biology*
  Balliu, B., Durrant, M., Goede, O. d., Abell, N., Li, X., Liu, B., Gloudemans, M. J., Cook, N. L., Smith, K. S., Knowles, D. A., Pala, M., Cucca, F., Schlessinger, et al
  2019; 20 (1): 230
- **Clonal haematopoiesis: connecting ageing and inflammation in cardiovascular disease.** *Nature reviews. Cardiology*
  Jaiswal, S., Libby, P.
  2019
- **It's in the blood.** *Nature medicine*
  Jaiswal, S.
  2019; 25 (8): 1184
- **Clonal Hematopoiesis of Indeterminate Potential Reshapes Age-Related CVD JACC Review Topic of the Week** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
  Khetarpal, S. A., Qamar, A., Bick, A. G., Fuster, J. J., Kathiresan, S., Jaiswal, S., Natarajan, P.
  2019; 74 (4): 578–86
- **Clonal Hematopoiesis Crossroads of Aging, Cardiovascular Disease, and Cancer: JACC Review Topic of the Week** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
  Libby, P., Sidlow, R., Lin, A. E., Gupta, D., Jones, L. W., Moslehi, J., Zeiher, A., Jaiswal, S., Schulz, C., Blankstein, R., Bolton, K. L., Steensma, D., Levine, et al
  2019; 74 (4): 567–77
- **Connections Between Clonal Hematopoiesis, Cardiovascular Disease, and Cancer: A Review.** *JAMA cardiology*
  Calvillo-Arguelles, O., Jaiswal, S., Shlush, L. I., Moslehi, J. J., Schimmer, A., Barac, A., Thavendiranathan, P.
  2019
- **Clonal hematopoiesis: Pre-cancer PLUS.** *Advances in cancer research*
  Silver, A. J., Jaiswal, S.
  2019; 141: 85–128
- **Biological implications of clonal hematopoiesis.** *Experimental hematology*
  Luis, T. C., Wilkinson, A. C., Beerman, I. n., Jaiswal, S. n., Shlush, L. I.
  2019
- **CHIPping Away at the Pathogenesis of Heart Failure** *JAMA CARDIOLOGY*
  Libby, P., Jaiswal, S., Lin, A. E., Ebert, B. L.
  2019; 4 (1): 5–6
- **Loss-of-Function Mutations in Dnmt3a and Tet2 Lead to Accelerated Atherosclerosis and Convergent Macrophage Phenotypes in Mice**
  Rauch, P. J., Silver, A. J., Gopakumar, J., McConkey, M., Sinha, E., Fefer, M., Shvartz, E., Sukhova, G., Libby, P., Ebert, B. L., Jaiswal, S.
  AMER SOC HEMATOLOGY.2018
- **Predicting progression to AML** *NATURE MEDICINE*
  Sellar, R. S., Jaiswal, S., Ebert, B. L.
  2018; 24 (7): 904–6
- **Clonal Hematopoiesis Somatic Mutations in Blood Cells and Atherosclerosis** *CIRCULATION-GENOMIC AND PRECISION MEDICINE*
  Natarajan, P., Jaiswal, S., Kathiresan, S.
  2018; 11 (7): e001926

- **Clonal Hematopoiesis and Atherosclerosis.** *The New England journal of medicine*
  Jaiswal, S., Natarajan, P., Ebert, B. L.
  2017; 377 (14): 1401-1402

- **Clonal Hematopoiesis Associated With Adverse Outcomes After Autologous Stem-Cell Transplantation for Lymphoma** *JOURNAL OF CLINICAL ONCOLOGY*
  Gibson, C. J., Lindsley, R. C., Tchekmedyian, V., Mar, B. G., Shi, J., Jaiswal, S., Bosworth, A., Francisco, L., He, J., Bansal, A., Morgan, E. A., LaCasce, A. S., Freedman, et al
  2017; 35 (14): 1598-?

- **Clonal hematopoiesis** *SEMINARS IN HEMATOLOGY*
  Jan, M., Ebert, B. L., Jaiswal, S.
  2017; 54 (1): 43-50

- **Clonal Hematopoiesis and Blood-Cancer Risk** *NEW ENGLAND JOURNAL OF MEDICINE*
  Yan, B., Ban, K., Chng, W.
  2015; 372 (11): 1071-1071

- **Mutations in G protein beta subunits promote transformation and kinase inhibitor resistance** *NATURE MEDICINE*
  Yoda, A., Adelmant, G., Tamburini, J., Chapuy, B., Shindoh, N., Yoda, Y., Weigert, O., Kopp, N., Wu, S., Kim, S. S., Liu, H., Tivey, T., Christie, et al
  2015; 21 (1): 71-75

- **MDS Is a Stem Cell Disorder After All** *CANCER CELL*
  Jaiswal, S., Ebert, B. L.
  2014; 25 (6): 713-714

- **Janus-like opposing roles of CD47 in autoimmune brain inflammation in humans and mice** *JOURNAL OF EXPERIMENTAL MEDICINE*
  Han, M. H., Lundgren, D. H., Jaiswal, S., Chao, M., Graham, K. L., Garris, C. S., Axtell, R. C., Ho, P. P., Lock, C. B., Woodard, J. I., Brownell, S. E., Zoudilova, M., Hunt, et al
  2012; 209 (7): 1325-1334

- **The CD47-signal regulatory protein alpha (SIRPa) interaction is a therapeutic target for human solid tumors** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Willingham, S. B., Volkmer, J., Gentles, A. J., Sahoo, D., Dalerba, P., Mitra, S. S., Wang, J., Contreras-Trujillo, H., Martin, R., Cohen, J. D., Lovelace, P., Scheeren, F. A., Chao, et al
  2012; 109 (17): 6662-6667

- **Calreticulin Is the Dominant Pro-Phagocytic Signal on Multiple Human Cancers and Is Counterbalanced by CD47** *SCIENCE TRANSLATIONAL MEDICINE*
  Chao, M. P., Jaiswal, S., Weissman-Tsukamoto, R., Alizadeh, A. A., Gentles, A. J., Volkmer, J., Weiskopf, K., Willingham, S. B., Raveh, T., Park, C. Y., Majeti, R., Weissman, I. L.
  2010; 2 (63)

- **Macrophages as mediators of tumor immunosurveillance** *TRENDS IN IMMUNOLOGY*
  Jaiswal, S., Chao, M. P., Majeti, R., Weissman, I. L.
  2010; 31 (6): 212-219

- **CD47 Is an Adverse Prognostic Factor and Therapeutic Antibody Target on Human Acute Myeloid Leukemia Stem Cells** *CELL*
  Majeti, R., Chao, M. P., Alizadeh, A. A., Pang, W. W., Jaiswal, S., Gibbs, K. D., van Rooijen, N., Weissman, I. L.
  2009; 138 (2): 286-299

- **Hematopoietic Stem and Progenitor Cells and the Inflammatory Response** *6th International Cancer Vaccine Symposium*
  Jaiswal, S., Weissman, I. L.
  BLACKWELL PUBLISHING.2009: 118–121

- **Expression of BCR/ABL and BCL-2 in myeloid progenitors leads to myeloid leukemias** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Jaiswal, S., Traver, D., Miyamoto, T., Akashi, K., Lagasse, E., Weissman, I. L.
  2003; 100 (17): 10002-10007