

I. Personal information

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II. Education and Training

Predoctoral and Doctoral Training

September 1996-June 2000	BS (Honors)	Biological Sciences	Stanford University
July 2001-June 2010	MD, PhD	Medicine and Immunology (Irving Weissman, advisor)	Stanford University

Postdoctoral Training

July 2010-June 2014	Residency	Clinical Pathology	Massachusetts General Hospital
July 2012-June 2013	Fellowship	Transfusion Medicine	Harvard Medical School
July 2013-August 2017	Post-doctoral fellow	Hematology (Benjamin Ebert, advisor)	Brigham and Women's Hospital and Broad Institute

Licensure and Certification

2013-present	Massachusetts Full Medical License
2017-present	California Full Medical License
2017-present	Board Certification in Clinical Pathology

III. Professional Appointments

July 2014-August 2017	Graduate Assistant in Pathology	Massachusetts General Hospital
September 2017-present	Assistant Professor of Pathology, University Tenure Line	Stanford University School of Medicine

IV. Honors and Prizes

2000	Phi Beta Kappa	Stanford University
2000	Firestone Medal	Stanford University
2000	Graduated with Honors	Stanford University
2014	Paul E. Strandjord Young Investigator Award	ACLPS Meeting
2016	BroadIgnite Awardee	Broad Institute

V. Scholarly Publications

Research investigations

1. **Jaiswal, S.***, Traver, D.*, Miyamoto, T., Akashi, K., Lagasse, E., & Weissman, I. L. (2003). Expression of BCR/ABL and BCL-2 in myeloid progenitors leads to myeloid leukemias. *Proc Natl Acad Sci U S A*, 100(17), 10002-10007. doi:10.1073/pnas.1633833100
2. **Jaiswal, S.**, Jamieson, C. H., Pang, W. W., Park, C. Y., Chao, M. P., Majeti, R., . . . Weissman, I. L. (2009). CD47 is upregulated on circulating hematopoietic stem cells and leukemia cells to avoid phagocytosis. *Cell*, 138(2), 271-285. doi:10.1016/j.cell.2009.05.046
3. Majeti, R., Chao, M. P., Alizadeh, A. A., Pang, W. W., **Jaiswal, S.**, Gibbs, K. D., Jr., . . . Weissman, I. L. (2009). CD47 is an adverse prognostic factor and therapeutic antibody target on human acute myeloid leukemia stem cells. *Cell*, 138(2), 286-299. doi:10.1016/j.cell.2009.05.045
4. Chao, M. P., **Jaiswal, S.**, Weissman-Tsukamoto, R., Alizadeh, A. A., Gentles, A. J., Volkmer, J., . . . Weissman, I. L. (2010). Calreticulin is the dominant pro-phagocytic signal on multiple human cancers and is counterbalanced by CD47. *Sci Transl Med*, 2(63), 63ra94. doi:10.1126/scitranslmed.3001375
5. Han, M. H., Lundgren, D. H., **Jaiswal, S.**, Chao, M., Graham, K. L., Garris, C. S., . . . Steinman, L. (2012). Janus-like opposing roles of CD47 in autoimmune brain inflammation in humans and mice. *J Exp Med*, 209(7), 1325-1334. doi:10.1084/jem.20101974
6. Willingham, S. B., Volkmer, J. P., Gentles, A. J., Sahoo, D., Dalerba, P., Mitra, S. S., . . . Weissman, I. L. (2012). The CD47-signal regulatory protein alpha (SIRPα) interaction is a therapeutic target for human solid tumors. *Proc Natl Acad Sci U S A*, 109(17), 6662-6667. doi:10.1073/pnas.1121623109
7. **Jaiswal, S.**, Fontanillas, P., Flannick, J., Manning, A., Grauman, P. V., Mar, B. G., . . . Ebert, B. L. (2014). Age-related clonal hematopoiesis associated with adverse outcomes. *N Engl J Med*, 371(26), 2488-2498. doi:10.1056/NEJMoa1408617
8. Yoda, A., Adelmant, G., Tamburini, J., Chapuy, B., Shindoh, N., Yoda, Y., . . . Lane, A. A. (2015). Mutations in G protein beta subunits promote transformation and kinase inhibitor resistance. *Nat Med*, 21(1), 71-75. doi:10.1038/nm.3751
9. Gibson, C. J., Lindsley, R. C., Tchekmedyian, V., Mar, B. G., Shi, J., **Jaiswal, S.**, . . . Ebert, B. L. (2017). Clonal Hematopoiesis Associated With Adverse Outcomes After Autologous Stem-Cell Transplantation for Lymphoma. *J Clin Oncol*, 35(14), 1598-1605. doi:10.1200/JCO.2016.71.6712
10. **Jaiswal, S.**, Natarajan, P., Silver, A. J., Gibson, C. J., Bick, A. G., Shvartz, E., . . . Kathiresan, S.*, Ebert, B. L.* (2017). Clonal Hematopoiesis and Risk of Atherosclerotic Cardiovascular Disease. *N Engl J Med*, 377(2), 111-121. doi:10.1056/NEJMoa1701719
11. Kahn, J. D., Miller, P. G., Silver, A. J., Sellar, R. S., Bhatt, S., Gibson, C., . . . **Jaiswal S.***, Ebert, B. L.* (2018). PPM1D truncating mutations confer resistance to chemotherapy and sensitivity to PPM1D inhibition in hematopoietic cells. *Blood*. doi:10.1182/blood-2018-05-850339
12. Bick, A. G., Weinstock, J. S., Nandakumar, S. K., Fulco, C. P., Leventhal, M. J., Bao, E. L., . . . Kathiresan, S. (2019). Inherited Causes of Clonal Hematopoiesis of Indeterminate Potential in TOPMed Whole Genomes. *bioRxiv*, 782748. doi:10.1101/782748
13. Balliu, B., Durrant, M., Goede, O., Abell, N., Li, X., Liu, B., . . . Montgomery, S. B. (2019). Genetic regulation of gene expression and splicing during a 10-year period of human aging. *Genome Biol*, 20(1), 230. doi:10.1186/s13059-019-1840-y

Other peer-reviewed publications

1. **Jaiswal, S.**, Chao, M. P., Majeti, R., & Weissman, I. L. (2010). Macrophages as mediators of tumor immunosurveillance. *Trends Immunol*, 31(6), 212-219. doi:10.1016/j.it.2010.04.001
2. Steensma, D. P., Bejar, R., **Jaiswal, S.**, Lindsley, R. C., Sekeres, M. A., Hasserjian, R. P., & Ebert, B. L. (2015). Clonal hematopoiesis of indeterminate potential and its distinction from myelodysplastic syndromes. *Blood*, 126(1), 9-16. doi:10.1182/blood-2015-03-631747
3. Jan, M., Ebert, B. L., & **Jaiswal, S.** (2017). Clonal hematopoiesis. *Semin Hematol*, 54(1), 43-50. doi:10.1053/j.seminhematol.2016.10.002
4. Natarajan, P., **Jaiswal, S.**, & Kathiresan, S. (2018). Clonal Hematopoiesis: Somatic Mutations in Blood Cells and Atherosclerosis. *Circ Genom Precis Med*, 11(7), e001926. doi:10.1161/CIRCGEN.118.001926
5. **Jaiswal, S.**, & Libby, P. (2019). Clonal haematopoiesis: connecting ageing and inflammation in cardiovascular disease. *Nat Rev Cardiol*. doi:10.1038/s41569-019-0247-5
6. **Jaiswal, S.**, & Ebert, B. L. (2019). Clonal hematopoiesis in human aging and disease. *Science*, 366(6465). doi:10.1126/science.aan4673
7. Khetarpal, S. A., Qamar, A., Bick, A. G., Fuster, J. J., Kathiresan, S., **Jaiswal, S.**, & Natarajan, P. (2019). Clonal Hematopoiesis of Indeterminate Potential Reshapes Age-Related CVD: JACC Review Topic of the Week. *J Am Coll Cardiol*, 74(4), 578-586. doi:10.1016/j.jacc.2019.05.045
8. Libby, P., Sidlow, R., Lin, A. E., Gupta, D., Jones, L. W., Moslehi, J., . . . Ebert, B. L. (2019). Clonal Hematopoiesis: Crossroads of Aging, Cardiovascular Disease, and Cancer: JACC Review Topic of the Week. *J Am Coll Cardiol*, 74(4), 567-577. doi:10.1016/j.jacc.2019.06.007
9. Luis, T. C., Wilkinson, A. C., Beerman, I., **Jaiswal, S.**, & Shlush, L. I. (2019). Biological implications of clonal hematopoiesis. *Exp Hematol*, 77, 1-5. doi:10.1016/j.exphem.2019.08.004

Non-peer reviewed scientific or medical publications/materials in print or other media

1. **Jaiswal, S.**, & Weissman, I. L. (2009). Hematopoietic stem and progenitor cells and the inflammatory response. *Ann N Y Acad Sci*, 1174, 118-121. doi:10.1111/j.1749-6632.2009.04930.
2. **Jaiswal, S.**, & Ebert, B. L. (2014). MDS is a stem cell disorder after all. *Cancer Cell*, 25(6), 713-714. doi:10.1016/j.ccr.2014.06.001
3. **Jaiswal, S.**, Natarajan, P., & Ebert, B. L. (2017). Clonal Hematopoiesis and Atherosclerosis. *N Engl J Med*, 377(14), 1401-1402
4. Sellar, R. S., **Jaiswal, S.**, & Ebert, B. L. (2018). Predicting progression to AML. *Nat Med*, 24(7), 904-906. doi:10.1038/s41591-018-0114-7
5. **Jaiswal, S.** (2019). It's in the blood. *Nat Med*, 25(8), 1184. doi:10.1038/s41591-019-0537-9
6. Libby, P., **Jaiswal, S.**, Lin, A. E., & Ebert, B. L. (2019). CHIPping Away at the Pathogenesis of Heart Failure. *JAMA Cardiol*, 4(1), 5-6. doi:10.1001/jamacardio.2018.4039

Book chapters

1. Silver, A. J., & **Jaiswal, S.** (2019). Clonal hematopoiesis: Pre-cancer PLUS. *Adv Cancer Res*, 141, 85-128. doi:10.1016/bs.acr.2018.12.003

Thesis

Jaiswal S. “CD47 expression during leukemic and stress hematopoiesis alters phagocytic activity of macrophages.” Dissertation in Program in Immunology, Stanford University School of Medicine. Defended August 2007, submitted January 2010.

*Denotes equal contribution

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1FMYoCxenTtAg/bibliography/48347321/public/?sort=date&direction=ascending>.

VI. Grants

Active

1015585.01 (Siddhartha Jaiswal (PI) - SPO 132780) 09/01/2017 -08/31/2022 0.60 calendar
The Burroughs Wellcome Fund

Major Goals: To test whether common mutations in CHIP affect atherosclerosis in mouse models and identify potential therapeutic interventions to lower the risk of cardiovascular events in these models.

NA (Siddhartha Jaiswal (co-PI) - SPO 135465) 01/01/2019 -12/31/2023 1.20 calendar
Fondation Leducq / Columbia University

Major Goals: This project will analyze human atherosclerotic lesions to assess whether the presence of CHIP is associated with stereotypical gene expression changes in plaque atheroma.

N/A (Siddhartha Jaiswal (PI) - SPO 158513) 07/01/2020 -06/30/2022 0.36 calendar
American Society of Hematology

Major Goals: To characterize *in vivo* macrophages in mice lacking *Tet2* or *Dnmt3a* by single-cell RNA sequencing in steady state and models of lung disease.

NHLBI R01HL148565 (Siddhartha Jaiswal (co-I) - SPO 07/15/2019 – 06/30/2023
139159) 0.60 calendar

National Institutes of Health / University of Washington

Major Goals: To characterize CHIP in the Women’s Health Initiative Long Life Study in order to understand factors that contribute to its development and association with diseases such as cancer and cardiovascular disease.

NHLBI 1DP2HL15754001 (Siddhartha Jaiswal (PI) – 08/26/2020 – 04/30/2025 3.00 calendar
SPO 160004)

National Institutes of Health / Stanford University

Major Goals: New Innovator award to study the associations between CHIP and diseases in large human cohorts, to uncover novel regulators of clonal expansion, and to identify factors influencing progression to

disease.

Pending

(Kevin Schulman - SPO 191666) 06/01/2020 - 05/31/2021 0.60 calendar
National Institutes of Health / University of Pittsburgh

Major Goals: Convalescent Plasma to Limit Coronavirus Associated Complications: A Randomized Double-Blind, Phase 2 Study Comparing the Efficacy and Safety of High-Titer Anti-SARS-CoV-2 Plasma vs. Placebo in Emergency Room Patients.

Past

DRG2018 (Siddhartha Jaiswal (PI) - SPO 136447) 09/01/2018 -08/31/2020 1.20 calendar
Edward P. Evans Foundation

Major Goals: To determine whether the commonly mutated genes in CHIP result in differences in gene expression or hematopoietic stem and progenitor compartments from human samples using single-cell RNA seq combined with mutational analysis.

VII. Clinical trials

Current trials

NCT04355767 08/11/2020 -12/31/2022
Convalescent Plasma in Outpatients with COVID-19 (C3PO)
Role: Study co-PI

VIII. Patents

Methods for manipulating phagocytosis mediated by CD47	WIPO Patent Application, PCT/US2009/000319, filed 01/15/2009
Therapeutic and diagnostic methods for manipulating phagocytosis through calreticulin and low-density lipoprotein-related receptor	WIPO Patent Application, PCT/US2011/066580, filed 07/1/2010
Method of identifying and treating a person having a predisposition to or afflicted by cardiometabolic disease	WIPO Patent Application PCT/US2015/062787, filed 11/25/2015
Compositions and methods for treating chemotherapy resistant cancer	WIPO Patent Application PCT/US2017/021830, filed 03/11/2016
IL-8, IL-6, IL-1B and TET2 and DNMT3A in atherosclerosis	WIPO Patent Application PCT/US2018/029098, filed 04/25/2017

IX. Editorial service

A. Editorial board memberships

Blood, 2018-present

Frontiers in Aging, 2020-present

B. Other peer review activities

Ad hoc reviewer for Science, Nature Genetics, NEJM, Science Translational Medicine, Cell Stem Cell, Aging Cell, Circulation, Circulation Research, JAHA

X. Service as Grant Reviewer

Ad hoc reviewer for ERC, DZHK, NASA, RERF, Snow Medical Foundation

XI. University Administrative Service

A. Committee service

Faculty search committees, Department of Pathology, 2018-2019

Graduate student admissions, Immunology PhD Program 2018-present

Graduate student admissions, Stem Cell PhD Program, 2018-present

Immunology Executive Committee, 2019-present

B. Leadership roles

Immunology Retreat co-director, 2019-present

XII. Service to Professional Organizations

A. Membership

American Society of Hematology

B. Committee Service

Abstract reviewer, American Society of Hematology, 2019-present

Session chair, American Society of Hematology Annual Meeting, 2019

Career development panel, American Society of Hematology Annual Meeting, 2019

XIII. Presentations

Invited oral presentations

June 2009	Stanford University, Regenerative Medicine Seminar Series, Stanford, CA
April 2012	Massachusetts Association of Blood Banks Annual Meeting, Boston, MA
December 2014	Broad Institute Annual Retreat, Boston, MA
January 2016	Baylor College of Medicine, STaR Center Special Seminar, Houston, TX
March 2016	AAMDS Scientific Symposium, Rockville, MD
February 2017	International Molecular Medicine Tri Conference, San Francisco, CA
December 2017	American Society of Hematology Annual Meeting, Myeloid Workshop, Atlanta, GA

January 2018	British Heart Foundation Centre and JCI Symposium on Advances in Heart Failure, King's College London, London, UK
January 2018	Siebel Stem Cell Institute Annual Symposium, Stanford, CA
February 2018	Keystone Symposium on Atherosclerosis, Taos, New Mexico
May 2018	Weizmann Institute, Rehovot, Israel
May 2018	2018 Israel Stem Cell Conference, Tel Aviv, Israel
July 2018	Genentech, South San Francisco, CA
September 2018	DZHK Annual Meeting, Frankfurt, Germany
October 2018	Immunology Seminar Series, Stanford University Program in Immunology
October 2018	PLMI 6 th Annual Thought Leaders Consortium Keynote, Tucson, AZ
October 2018	International Workshop on Co-morbidities and Adverse Drug Reactions in HIV, New York, NY
November 2018	American Heart Association Annual Meeting, Chicago, IL
December 2018	American Society of Hematology Annual Meeting, Aging Workshop, San Diego, CA
December 2018	7 th Cancer Stem Cell Symposium, Keynote, Fukuoka, Japan
January 2019	UCSD Cardiovascular Science Conference, San Diego, CA
February 2019	International Symposium on Acute Leukemias XVII, Munich, Germany
April 2019	Oregon National Primate Research Center Seminar Series, Portland, OR
May 2019	American Heart Association Vascular Discovery, Plenary Speaker, Boston, MA
May 2019	European Atherosclerosis Society Annual Meeting, Maastricht, Netherlands
June 2019	University of Utah Hematology Retreat, Park City, UT
June 2019	Ageing, Health, and Rejuvenation, Rotterdam, Netherlands
September 2019	USC Broad CIRM Center Distinguished Speaker Series, Los Angeles, CA
October 2019	Guardant Health Invited Seminar, Redwood City, CA
October 2019	Japanese Society of Hematology Annual Meeting, Keynote, Tokyo, Japan
October 2019	Radiation Effects Research Foundation, Hiroshima, Japan
October 2019	Centro Nacional de Investigaciones Cardiovasculares, New Concepts in Age Related Vascular Disease, Madrid, Spain
November 2019	Oxford WIMM Special Seminar, Oxford, UK
November 2019	American Heart Association Annual Meeting, Philadelphia, PA
January 2020	Precision Medicine World Conference, Santa Clara, CA
February 2020	Siebel Stem Cell Institute Annual Symposium, Stanford, CA
March 2020	Cornell Pathology Grand Rounds, New York, NY
May 2020	City of Hope CCPS Seminar Series (virtual)
May 2020	Memorial Sloan Kettering Cancer Center, Clonal Hematopoiesis Seminar Series (virtual)
May 2020	Johns Hopkins Cancer Center Translation Research Conference (virtual)
September 2020	Mexican Society of Thrombosis and Hemostasis Annual Congress, Keynote (virtual)
October 2020	New York Academy of Sciences, Immune Contribution to Heart Failure and Therapeutic Opportunities (virtual)

XIV. Community Service

Clinical Pathology resident mentoring, 2018-present
Canary CREST summer program mentor, 2019

XV. Trainees

Post-doctoral mentees:

Daniel Nachun	10/2018-present	Stanford University
Hind Bouzid	12/2018-present	Stanford University
Shaneice Mitchell	6/2019-present	Stanford University
Nikolaus Jahn	9/2020-present	Stanford University

Student mentees:

Josephine Kahn	9/2014-1/2018	Utrecht University (PhD)
Kameron Rodrigues	7/2018-present	Stanford University (PhD)
Herra Ahmad	1/2019-present	Charite University (PhD)
Jayakrishnan Gopakumar	9/2020-present	Stanford University (MD)

Doctoral Dissertation Reader:

Amira Barkal	2019	Stanford University (MD PhD)
Maxim Markovic	2019-present	Stanford University (PhD)
Brooks Benard	2020-present	Stanford University (PhD)
Alvaro Amarin	2020-present	Stanford University (MD PhD)