Caleb Lareau

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Current Appointment

Assistant Member, Program in Computational and Systems Biology — 2023 - Present
Memorial Sloan Kettering Cancer Center (New York, NY)

Assistant Professor, Computational Biology and Medicine — 2023 - Present
Weill Cornell Medical School (New York, NY)

Education and Training

Postdoctoral Fellowship, Departments of Pathology and Genetics — 2023
Stanford University (Palo Alto, CA)

Doctor of Philosophy, Biological and Biomedical Sciences — 2020
Harvard University (Cambridge, MA)

Master of Arts, Biostatistics — 2017
Harvard University (Cambridge, MA)

Bachelor of Science, *summa cum laude*, Biochemistry and Mathematics — 2015
University of Tulsa (Tulsa, OK)

Awards and Honors

National Academy of Medicine - Catalyst Awardee	2025
Michelson Medical Research Foundation: Next Generation Prize	2024
Clarivate Highly Cited Researcher (Cross-Field)	2024, 2025
Society for Immunotherapy of Cancer - Sparkathon Young Investigator	2023
Memorial Sloan Kettering Emerging Leader in Computational Oncology	2023
Gladstone Institutes Distinguished Achievement in Science Award (Genomic Immunology)	2023
National Human Genome Research Institute - Pathway to Independence Award (K99/R00)	2022
STAT Wunderkind	2022
Forbes 30 Under 30 - Science	2022
Parker Institute for Cancer Immunotherapy - Parker Scholar	2021
Broad Institute Next Generation in Biomedicine	2021
10x Genomics Featured Scientist in Innovator Series	2021
Stanford Science Fellowship	2020
Deutsche Forschungsgemeinschaft Mercator Fellowship	2020
Ruth L. Kirschstein National Research Service Award Individual Predoctoral Fellowship (F31)	2018
Harvard University Certificate of Distinction in Teaching	2017
National Science Foundation Graduate Research Fellowship (NSF-GRFP)	2015
Phi Kappa Phi Walter and Adelheid Hohenstein Fellow	2015
Pi Kappa Alpha Robertson Most Outstanding Undergraduate Student	2014
Jess Choteau Outstanding Senior	2014
Deutscher Akademischer Austauschdienst RISE Scholar	2013, 2014
Barry M. Goldwater Scholar	2013
University of Tulsa Presidential Scholar	2011
Oklahoma Medical Research Foundation Sir Alexander Fleming Scholar	2011

Teaching Experience

Gerstner Sloan Kettering Graduate School
Lecturer, Basic Science Module; Cancer Biology and Cancer Engineering Program — 2024- Present

Weill Cornell Medicine
Course Co-Head, Computational Genomics — Spring 2025- Present
Lecturer, Deep Learning in Biology and Medicine — Spring 2025- Present
Lecturer, Functional Interpretation of High-Throughput Data — Spring 2024- Present
Faculty Moderator, Computational Biology and Medicine Journal Club — Fall 2023,2024

Stanford University
Course Head; Cell, Gene, and Immune Therapies — Spring 2023
Lecturer; Single-cell Immunogenomics — Spring 2022, 2023
Lecturer; Introduction to Applied Computational Tools in Immunology — Winter 2022,2023

Harvard University
Teaching Associate; Introduction to Computational Biology and Bioinformatics — Spring 2017, 2020
Teaching Associate; Introduction to Statistical Genetics — Fall 2016, 2017

Cold Spring Harbor Laboratory
Lecturer; Advanced Sequencing Technologies — Fall 2019

University of Tulsa
Teaching Associate; Molecular Modeling — Spring 2014, 2015
Teaching Associate; Energy Technology for the Future — Spring 2013

Academic Service

SCIENTIFIC MENTORSHIP

Tri-Institutional MD/PhD Students (2024-present)
Weill Cornell Program in Biophysics, and Structural Biology PhD Students (2023-present)
Weill Cornell Computational Biology and Medicine PhD Students (2023-present)
Gerstner Sloan Kettering PhD Students (2023-present)
Stanford Institutes of Medicine Summer Research Program (2022-2023)
Stanford undergraduate and graduate students in: Genetics, Computer Science, and Immunology research (2020-2023)
MIT undergraduate research (2016-2020)

OUTREACH

Mentor, Computational Biology Summer Program (MSKCC) (2024-Present)
Mentor, Weill Cornell High School Catalyst Program (2024-Present)
Goldwater Scholar Mentorship Program (2016-Present)
Project SHORT Mentor (2020-2023)
Speaker, Gateway High School and Fremont High School, High School Career Day (2020-2023)
Mentor, Research Science Institute, MIT (2016-2019)
Volunteer computer science instructor, Will Rogers High School, Tulsa, OK (2014-2015)

GUEST EDITOR

Genome Biology, *Frontiers in Immunology*

AD HOC PEER REVIEW - GRANTS

UK Medical Research Council, European Research Council (ERC), Dutch Research Council (NWO), Italian Science Fund, Austrian Science Fund, National Science Foundation, Simons Research Foundation, NIH Human Virome Study Section (x2), NCI IMAT Study Section

AD HOC PEER REVIEW - JOURNALS

Nature, *Cell*, *Science*, *PNAS*, *Nature Biotechnology*, *Nature Genetics*, *Nature Methods*, *Nature Communications*, *Nature Protocols*, *Science Advances*, *Cell Systems*, *Nature Structural and Molecular Biology*, *Genome Research*, *Nucleic Acids Research BMC Biology*, *BMC Bioinformatics*, *Cancers*, *Communications Biology*, *Life Science Alliance*, *The R Journal*, *BioData Mining*, *BMC Medical Genomics*, *BMJ Open*, *Molecular Cancer*,*Frontiers in Medicine*, *Frontiers in Cell and Development Biology*, *Frontiers in Immunology*, *Cell Reports Medicine*, *Oxford Bioinformatics*

PROFESSIONAL MEMBERSHIP

Member, American Association for Cancer Research (AACR)

Member, American Society of Human Genetics

Developer, Bioconductor Project

Supporting Member, R and Python Software Foundations

INVITED TALKS AND PRESENTATIONS (2023-Present; @MSKCC)

6th Annual Single Cell Biology Meeting, Hinxton, UK	June 2026
American Society of Microbiology Microbe Meeting, Washington, DC	June 2026
American Association for Cancer Research, San Diego, CA	April 2026
3rd Annual Probing Human Disease Using Single-Cell Technologies, Cancun, Mexico	March 2026
54th Meeting of the Japanese Society of Immunology, Himeji, Japan	December 2025
University of Helsinki, Clinical and Applied Virology Course, Helsinki, Finland	October 2025
Mt. Sinai Department of Microbiology Seminar Series, New York, NY	October 2025
New York University Department of Biology Seminar Series, New York, NY	October 2025
FASEB: Mechanisms of mitochondrial DNA mutation and repair, Nashville, TN	June 2025
UCSF Cancer Biology Seminar Series, San Francisco, CA	April 2025
Osaka University Immunology Seminar Series, Osaka, Japan	March 2025
12th International Conference on HHV-6 and 7, Himeji, Japan	March 2025
23rd Annual Workshop at Bellairs– Metagenomics Barbados	February 2025
University of Toronto, Medical Genetics Seminar Series, Houston, TX	November 2024
Baylor University, Genetics and Genomics Seminar Series, Toronto, ON	November 2024
Single-cell Genomics Conference 2024, Corinthia, Greece	September 2024
Columbia University Intensive Workshop: Methods in Single-Cell Data, New York, NY	July 2024
Gordon Research Conference- Single-cell Cancer Biology, Hooksett, NH	June 2024
Innovations in Single Cell Omics, Barcelona, Spain	May 2024
PEGS - Antibody and Protein Engineering, Boston, MA	May 2024
Element Biosciences User Group Meeting, New York, NY	April 2024
New York Genome Center- Single-cell Genomics Day, New York, NY	March 2024
Single-cell Netherlands Seminar Series, Amsterdam, NL	March 2024
Immuno-Oncology 360 Summit, Brooklyn, NY	February 2024
2nd Annual Probing Human Disease Using Single-Cell Technologies, Cancun, Mexico	February 2024
Google DeepMind Invited Seminar Series, London, UK	November 2023
38th Annual Meeting, Society for Immunotherapy of Cancer, Chicago, IL	September 2023

PUBLICATIONS

* Denotes equal contributions; ‡ Denotes corresponding author(s); **5 selected research articles**

CORRESPONDING AUTHOR

1. S. Nyeo, E. Cumming, ..., S. Petrovski‡, R. Dhindsa‡, **C.A. Lareau**‡. (2026) Population-scale sequencing resolves determinants of persistent EBV DNA. ***Nature***. DOI: 10.1038/s41586-025-10020-2.
2. T. Abay, R. Stickels, ... , R. Chaligne‡, A.T. Satpathy‡, **C.A. Lareau**‡. (2025) Transcript-specific enrichment enables profiling of rare cell states via scRNA-seq. ***Nature Genetics***. DOI: 10.1038/s41588-024-02036-7.
3. **C.A. Lareau**‡, *et al*. (2025) Cell type-specific purifying selection of synonymous mitochondrial DNA variation. ***Proceedings of the National Academy of Sciences***. DOI: 10.1101/2023.04.23.537997v1.
4. A. Chow, **C.A. Lareau**‡. (2024) Concepts and new developments in droplet-based single cell multi-omics. ***Trends in Biotechnology***. DOI: 10.1016/j.tibtech.2024.07.006.
5. L. Nitsch, **C.A. Lareau**‡, L.S. Ludwig ‡ (2024) Mitochondrial genetics through the lens of single-cell multi-omics. ***Nature Genetics***. DOI: 10.1038/s41588-024-01794-8.
6. S. Boscenco, ..., **C.A. Lareau**‡, E. Reznik‡ (2024) Single-cell technologies for studying the evolution and function of mitochondrial DNA in cancer. ***Ann Rev of Cancer Bio*** DOI: 10.1146/annurev-cancerbio-080124-102241.
7. **C.A. Lareau**‡, *et al*. (2023) Latent human herpesvirus 6 is reactivated in CAR T cells. ***Nature***. DOI: 10.1038/s41586-023-06704-2.
8. **C.A. Lareau**‡, *et al*. (2023) Single-cell multi-omics reveals dynamics of purifying selection of pathogenic mitochondrial DNA across human immune cells. ***Nature Genetics***. DOI: 10.1038/s41588-023-01433-8.
9. **C.A. Lareau**‡, *et al*. (2023) Mitochondrial single cell ATAC-seq for high-throughput multi-omic detection of mitochondrial genotypes and chromatin accessibility. ***Nature Protocols***. DOI: 10.1038/s41596-022-00795-3.
10. **C.A. Lareau**‡, K.R. Parker‡, A.T. Satpathy‡. (2021) Charting the tumor antigen maps drawn by single-cell genomics. ***Cancer Cell***. DOI: 10.1016/j.ccel.2021.11.005.
11. **C.A. Lareau**,*‡, L.S. Ludwig,*‡, C. Muus, *et al*. (2021) Massively parallel single-cell mitochondrial DNA genotyping and chromatin profiling. ***Nature Biotechnology***. DOI: 10.1038/s41587-020-0645-6.
12. **C.A. Lareau**‡, S. Ma, F.M. Duarte, J.D. Buenrostro‡. (2020) Inference and effects of barcode multiplets in droplet-based single-cell assays. ***Nature Communications***. DOI: 10.1038/s41467-020-14667-5.

(CO-) FIRST AUTHOR

13. L.S. Ludwig,* **C.A. Lareau**,* *et al*. (2022) A Congenital Anemia Dissociates the Pleiotropic Functions of Master Transcription Factor GATA1. ***Blood***. DOI: 10.1182/blood.2021013753.
14. J. Wang*, **C.A. Lareau***, *et al*. (2021) Single-Cell Multiomics Defines Tolerogenic Extrathymic Aire-Expressing Populations with Unique Homology to Thymic Epithelium. ***Science Immunology***. DOI: 10.1126/sciimmunol.abl5053.
15. E. Mimitou*, **C.A. Lareau***, K.Y. Chen* *et al*. (2021) Scalable, multimodal profiling of chromatin accessibility, RNA, and protein levels in single cells. ***Nature Biotechnology***. DOI: 10.1038/s41587-021-00927-2
16. N. Schmidt*, **C.A. Lareau***, H. Keshishian* *et al*. (2021) A direct RNA-protein interaction atlas of the SARS-CoV-2 RNA in infected human cells. ***Nature Microbiology***. DOI: 10.1101/2020.07.15.204404.
17. M. A. Walker,* **C.A. Lareau**,* L.S. Ludwig,* *et al*. (2020) Purifying Selection against Pathogenic Mitochondrial DNA in Human T cells. ***New England Journal of Medicine***. DOI: 10.1056/NEJMoa2001265.

18. D. Vuckovic*, E. Bao*, P. Akbari*, **C.A. Lareau***, *et al*. (2020) The Polygenic and Monogenic Basis of Blood Traits and Diseases. ***Cell***. DOI: 10.1101/2020.02.02.20020065.

19. L.S. Ludwig,*, **C.A. Lareau**,* J.C. Ulirsch*, *et al*. (2019) Lineage tracing in humans enabled by mitochondrial mutations and single cell genomics. ***Cell***. DOI: 10.1016/j.cell.2019.01.022.

20. **C.A. Lareau**,* F.M. Duarte,* J.G. Chew,* *et al*. (2019) Droplet-based combinatorial indexing for massive-scale single-cell chromatin accessibility. ***Nature Biotechnology***. DOI: 10.1038/s41587-019-0147-6.

21. **C.A. Lareau**, L.S. Ludwig, V.G. Sankaran. (2019) Longitudinal assessment of clonal mosaicism in human hematopoiesis via mitochondrial mutation tracking. ***Blood Advances***. DOI: 10.1182/bloodadvances.2019001196.

22. J.C. Ulirsch,* **C.A. Lareau**,* E.L. Bao,* *et al*. (2019) Interrogation of human hematopoiesis at single-cell and single-variant resolution. ***Nature Genetics***. DOI: 10.1038/s41588-019-0362-6.

23. E.L. Bao,* **C.A. Lareau**,* C. Brugnara, I.R. Fulcher, *et al*. (2019) Heritability of fetal hemoglobin, white cell count, and other clinical traits from a sickle cell disease family cohort. ***American Journal of Hematology***. DOI: 10.1002/ajh.25421.

24. L.S. Ludwig,*, **C.A. Lareau**,* *et al*. (2019) Transcriptional States and Chromatin Accessibility Underlying Human Erythropoiesis. ***Cell Reports***. DOI: 10.1016/j.celrep.2019.05.046.

25. **C.A. Lareau** and M.J. Aryee. (2018) hichipper: A preprocessing pipeline for assessing library quality and DNA loops from HiChIP data. ***Nature Methods***. DOI: 10.1038/nmeth.4583.

26. **C.A. Lareau**, C.F. DeWeese *et al*. (2017) Polygenic risk assessment reveals pleiotropy between sarcoidosis and inflammatory disorders in the contextof genetic ancestry. ***Genes and Immunity***. DOI: 10.1038/gene.2017.3

27. **C.A. Lareau** and M.J. Aryee. (2017) diffloop: a novel computational framework for identifying and functionalizing differential topological features in DNA. ***Bioinformatics***. DOI: 10.1093/bioinformatics/btx623.

28. **C.A. Lareau**, B.C. White, *et al*. (2016) An interaction quantitative trait loci tool implicates epistatic functional variants in an apoptosis pathway in smallpox vaccine eQTL data. ***Genes and Immunity.*** DOI: 10.1038/gene.2016.15.

29. **C.A. Lareau**, B.C. White, C.G. Montgomery, and B.A. McKinney. (2015) Common Variants Modulate Differential Correlation Structures in Gene Expression Data. ***Frontiers in Genetics***. DOI: 10.3389/fgene.2015.00312.

30. **C.A. Lareau**, I.A. Adrianto, *et al*. (2015) Fine mapping of Chromosome 15q25 in Sarcoidosis Implicates Zinc Finger Protein 592 in Patients with Neurological Involvement. ***Annals of Translational and Clinical Neurology***. DOI: 10.1002/acn3.229.

31. **C.A. Lareau**, B.C. White, A.L. Oberg, and B.A. McKinney. (2015) Differential co-expression network centrality and machine learning feature selection for identifying susceptibility hubs in networks with scale-free structure. ***BioData Mining***, DOI: 10.1186/s13040-015-0040-x.

32. N.A. Davis,* **C.A. Lareau**,* *et al*. (2013) Encore: Genetic association interaction network centrality pipeline and application to SLE exome data. ***Genetic Epidemiology***. DOI: 10.1002/gepi.21739.

INVITED COMMENTARY

33. L.C. Kida and **C.A. Lareau**‡. (2025) Multiplexing Single-Cell Multi-omics. ***Nature Methods***. DOI: 10.1038/s41592-025-02657-8.

34. **C.A. Lareau**‡. (2023) Resolving subtle cell states in sparse single-cell data. ***Nature Biotechnology*** DOI: 10.1038/s41587-023-01797-6.

35. **C.A. Lareau**‡, C. Romagnani, L. Ludwig. (2022) Lineage tracing, hematopoietic stem cell and immune cell dynamics. ***Frontiers in Immunology*** DOI: 10.3389/fimmu.2022.1062415.

36. **C.A. Lareau** and A.T. Satpathy. (2020) An old BATF's new T-ricks. ***Nature Immunology***. DOI: 10.1038/s41590-020-0796-0.

COMMENTS / MATTERS ARISING

37. **C.A. Lareau**‡, *et al*. (2026) Artifacts in single-cell mitochondrial DNA mutation analyses misinform phylogenetic inference. ***Nature***. In press

38. **C.A. Lareau**,* K. Clement,* J.Y. Hsu,* *et al*. (2018) Response to "Unexpected mutations after CRISPR-Cas9 editing *in vivo*." ***Nature Methods***. DOI: 10.1038/nmeth.4541.

39. J.C. Ulirsch, **C.A. Lareau**, *et al*. (2017) Confounding in *ex vivo* models of Diamond-Blackfan anemia. ***Blood***. DOI: 10.1182/blood-2017-05-783191.

BOOK CHAPTERS

40. E.P. Mimitou‡, P. Smibert‡, and **C.A. Lareau**‡ (2022) Massively parallel profiling of accessible chromatin and proteins with ASAP-seq. ***Methods in Molecular Biology*** - *Chromatin Accessibility: Methods and Protocols*. DOI: 10.1007/978-1-0716-2899-7_13.

41. L.S. Ludwig and **C.A. Lareau**‡ (2022) Concomitant sequencing of accessible chromatin and mitochondrial genomes in single cells using mtscATAC-seq. ***Methods in Molecular Biology*** - *Chromatin Accessibility: Methods and Protocols*. DOI: 10.1007/978-1-0716-2899-7_14.

42. **C.A. Lareau**, et al. (2019) Preprocessing and computational analysis of single-cell epigenomic datasets. ***Methods in Molecular Biology*** - *Computational Methods for Single-Cell Data Analysis*. DOI: 10.1007/978-1-4939-9057-3.

43. **C.A. Lareau** and B.A. McKinney. (2015) Network Theory for Data-Driven Epistasis Networks. ***Methods in Molecular Biology***– *Epistasis: Methods and Protocols*, DOI: 10.1007/978-1-4939-2155-3.

CO-AUTHOR

44. L. Siraj, R. Castro, H. Dewey, S. Kales, T. Nguyen, M. Kanai, D. Berenzy, K. Mouri, Q. Wang, Z. McCaw, S. Gosai, F. Aguet, R. Cui, C. Vockley, **C.A. Lareau**, *et al.* (2026) Functional dissection of complex and molecular trait variants at single nucleotide resolution. ***Nature***. In press.

45. K. Yu, ..., **C.A. Lareau**, N. Agar, T. Merghoub, V. Tabar. (2026) A pathogenic subpopulation of human glioma associated macrophages linked to glioma progression ***Cancer Cell***. DOI: 10.1101/2025.02.12.637857.

46. V. Narendra, ..., **C.A. Lareau**, S.W. Lowe, A.D. Gitlin (2026). Independent mechanisms of inflammation and myeloid bias in VEXAS syndrome. ***Nature***. DOI: 10.1038/s41586-025-09815-0.

47. S. Boscenco, ..., **C.A. Lareau**, E. Reznik, P. Gammage. (2025). Functionally dominant hotspot mutations of mitochondrial ribosomal RNA genes in cancer. ***Nature Genetics***. DOI: 10.1038/s41588-025-02374-0.

48. M. Rotiroti, A. Tousley, ..., **C.A. Lareau**, R. Majzner. (2025) Harnessing proximal T cell signaling molecules for enhanced CAR T cell activity. ***Nature Cancer***. DOI: /10.1038/s43018-025-01056-4.

49. F. Yi, T. Cohen, ..., **C.A. Lareau**, K. Hsu, M. Sadelain, D. Betel, C. Klebanoff. (2025) CAR-engineered lymphocyte persistence is governed by a FAS ligand/FAS auto-regulatory circuit. ***Nature Cancer***. DOI: 10.1038/s43018-025-01009-x.

50. Y Fu., M. Land, ..., **C.A. Lareau**, E. Reznik, R. Sharma, R. Chaligne, C. Thompson, D. Pe'er, A. Sfeir (2025) Engineering mtDNA Deletions by Reconstituting End-Joining in Human Mitochondria. ***Cell***. DOI: S0092-8674(25)00194-1.

51. M.A. Nix, **C.A. Lareau**, *et al*. (2024) Identifying optimal tumor-associated antigen combinations with single-cell genomics to enable multi-targeting therapies. ***Frontiers in Immunology***. DOI: 10.3389/fimmu.2024.1492782

52. D. Luan, S. DeWolf, T. Fei, S. Raj, G. Shah, **C.A. Lareau**, *et al*. (2024) Dynamics of Immune Reconstitution and Impact on Outcomes Across CAR-T Cell Products in Large B-Cell Lymphoma. ***Blood Cancer Discovery***. DOI: 10.1158/2643-3230.BCD-24-0163.

53. A. Obers, ..., **C.A. Lareau**, *et al*. (2024) Retinoic acid and TGF-B orchestrate organ-specific programs of tissue residency; ***Immunity***. DOI: 10.1016/j.immuni.2024.09.015.

54. L.Penter, ..., **C.A. Lareau**, *et al*. (2024) Tracking rare single donor and recipient immune and leukemia cells after allogeneic hematopoietic cell transplantation using mitochondrial DNA mutations. ***Blood Cancer Discovery***. DOI: 10.1158/2643-3230.BCD-23-0138.

55. F.A. Buquicchio, ... **C.A. Lareau**, A.T. Satpathy, L. Mackay. (2024) Distinct epigenomic landscapes underlie tissue-specific memory T cell differentiation. ***Immunity***. DOI: 10.1016/j.immuni.2024.06.014

56. IGVF Consortium, including **C.A. Lareau**. (2024) Deciphering the impact of genomic variation on function. ***Nature***. DOI: 10.1038/s41586-024-07510-0.

57. K. Nuno, A. Azizi, T. Kohnke, **C.A. Lareau**, *et al*. (2024) Convergent Epigenetic Evolution Drives Relapse in Acute Myeloid Leukemia. ***eLife***. DOI: 10.7554/eLife.93019.

58. C. Liu, H. Nagashima, P. Wang, A. Lim, S. Signorella, W. Montgomery, N. Fernando, V. Bass, L. Reich, Z. Tang, O. Harrison, C. Yao, H. Sun, S. Brooks, J. Kan, V. Nagarajan, R. Phillips, Y. Mikami, **C.A. Lareau**, *et al*. (2023) CTCF-mediated topologically associated domains delineates super-enhancer territories and selective cytokine expression at the Mdm1-Il22-Ifng. ***Immunity*** DOI: 10.1016/j.immuni.2024.04.007.

59. A. Doan, *et al.*, **C.A. Lareau**, J. Fraietta, E. Sotillo, A. Satpathy, C. Mackall, E. Weber (2024). FOXO1 is a master regulator of CAR T memory programming. ***Nature***. DOI: 10.1038/s41586-024-07300-8.

60. N Schmidt, S. Ganskih, Y. Wei, A. Gabel, S. Zielinski, H. Keshishian, **C.A. Lareau**, *et al.* (2023). The host protein SND1 binds SARS-CoV-2 negative-sense RNA and promotes nascent viral RNA synthesis. ***Cell***. DOI: 10.1016/j.cell.2023.09.002

61. A.M Tousley, M.C. Rotiroti, L Labanieh, L.W. Rysavy, W. Kim, **C.A. Lareau**, *et al.* (2023). Co-opting T cell proximal signaling molecules enables Boolean logic-gated CAR T cell control. ***Nature***. DOI: 10.1038/s41586-023-05778-2.

62. R. Fonseca, T. Burn, L. Gandolfo, S. Devi, S. Park, A. Obers, M Evrard, S. N. Christo, F. A. Buquicchio, **C.A. Lareau**, *et al.* (2022). Runx3 drives a tissue residency program that is absent in CD4+ T cells. ***Nature Immunology***. DOI: 10.1038/s41590-022-01273-4.

63. T. Ruckert, **C.A. Lareau**, *et al*. (2022) Clonal expansion and epigenetic inheritance of long-lasting NK cell memory. ***Nature Immunology***. DOI: 10.1038/s41590-022-01327-7.

64. T. Miller, **C.A. Lareau**, *et al.* (2022) Mitochondrial variant enrichment from high-throughput single-cell RNA-seq resolves clonal populations. ***Nature Biotechnology***. DOI: 10.1101/2021.03.08.434450v1.

65. L. Penter, E. ten Hacken, J. Southard, **C.A. Lareau**, *et al.* (2022) Mitochondrial DNA mutations as natural barcodes for lineage tracing of murine tumor models. ***Cancer Research***. DOI: 10.1158/0008-5472.CAN-22-0275.

66. J. Rosenberg, J. Peters, T. Hughes, **C.A. Lareau** *et al.* (2022) JAK-inhibition in a patient with a STAT1 gain-of-function variant reveals dysregulation as a common feature of aplastic anemia. ***Med***. DOI: 10.1016/j.medj.2021.12.003.

67. S. Bucktrout, N. Banovich, L. Butterfield, C. Cimen-Bozkus, J. Giles, Z. Good, D. Goodman, V. Jonsson, **C.A. Lareau**, *et al*. (2022)Advancing T cell based cancer therapy with single-cell technologies. ***Nature Medicine***. DOI: 10.1038/s41591-022-01986-x.

68. V.K. Kartha, F.M. Duarte, Y. Hu, S. Ma, J.G. Chew, **C.A. Lareau**, *et al.* (2022) Functional Inference of Gene Regulation using Single-Cell Multi-Omics. ***Cell Genomics***. DOI: 10.1016/j.xgen.2022.100166.

69. R. Kedmi, T. Najar, K. Mesa, A. Grayson, L. Kroehling, Y. Hao, S. Hao, M. Pokrovskii, M. Xu, J. Talbot, J. Wang, J. Germino, **C.A. Lareau**, *et al.* (2022). Microbiota-instructed regulatory T cell differentiation is mediated by a distinct RORgt+ antigen presenting cell subset. ***Nature***. DOI: 10.1038/s41586-022-05089-y.

70. E. Panditharatna, J. Marques, T. Wang, M. Trissal, I. Liu, L. Jiang, A. Beck, A. Groves, N. Dharia, D. Li, S. Hoffman, G. Kugener, M. Shaw, H. Mire, O. Hack, J. Dempster, **C.A. Lareau**, *et al.* (2022) BAF complex maintains glioma stem cells in pediatric H3K27M-glioma. ***Cancer Discovery***. DOI: 10.1158/2159-8290.CD-21-1491.

71. T. Zhao, Z Chiang, J. Morriss, L. LaFave, E.M. Murray, I. Del Priore, K. Meli, **C.A. Lareau** *et al.* (2022). Spatial genomics enables multi-modal study of clonal heterogeneity in tissues. ***Nature***. DOI: 10.1038/s41586-021-04217-4.

72. R. Ajore, A. Niroula, M. Pertesi, C. Cafaro, M. Thodberg, M. Went, E. Bao, L. Duran-Lozano, A. de Lapuente Portilla, T. Olafsdottir, N. Ugidos-Damboriena, O. Magnusson, M. Samur, **C.A. Lareau**, *et al.* (2022) Functional dissection of inherited non-coding variation influencing multiple myeloma risk. ***Nature Communications***. DOI: 10.1038/s41467-021-27666.

73. T. Stuart, A. Srivastava, S. Madad, **C.A. Lareau**, R. Satija. (2021) Multimodal single-cell chromatin analysis with Signac. ***Nature Methods***. DOI: 10.1101/2020.11.09.373613.

74. E. Fiskin, **C.A. Lareau**, *et al.* (2021) Single-cell multimodal profiling of proteins and chromatin accessibility using PHAGE-ATAC. ***Nature Biotechnology***. DOI: 10.1038/s41587-021-01065-5.

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PATENTS

GRANTED

1. **PCT/US2019/036583**; Lineage tracing using mitochondrial genome mutations and single-cell genomics
2. **PCT/US2021/035951**; Methods of detecting mitochondrial disease
3. **PCT/US2021/032702**; Lineage inference from single-cell transcriptomics
4. **PCT/US2023/025711**; Methods of Genetically Modifying Cells for Altered Codon-Anti-Codon Interactions
5. **PCT/US2023/030111**; Methods of assessing therapeutic t cells for latent and reactivated human herpesvirus 6

PENDING

6. **PPA 63/314,980**; Massively integrated analysis of single cell RNA sequencing data
7. **PPA 63/569,67**; Programmable Enrichment Via RNA Fish for Single-Cell RNA Analysis