

Current Positions

Investigator, Howard Hughes Medical Institute
Professor, Genome Sciences, University of Washington
Director, Allen Discovery Center for Cell Lineage
Director, Brotman Baty Institute for Precision Medicine

Contact Information

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Education

- 2007 M.D., Harvard Medical School (Boston, Massachusetts)
- 2005 Ph.D. in Genetics, Harvard University (Cambridge, Massachusetts)
Research Advisor: George M. Church
Thesis entitled “*Multiplex Genome Sequencing and Analysis*”
- 1996 A.B., *summa cum laude* in Molecular Biology, Princeton University (Princeton, NJ)
Research Advisor: Lee M. Silver

Professional Experience

- 2017 – present Scientific Director
Brotman-Baty Institute for Precision Medicine
- 2017 – present Scientific Director
Allen Discovery Center for Cell Lineage Tracing
- 2015 – present Investigator
Howard Hughes Medical Institute
- 2015 – present Full Professor (with tenure)
Department of Genome Sciences, University of Washington, Seattle, WA
- 2010 – present Affiliate Professor
Division of Human Biology, Fred Hutchinson Cancer Research Center, Seattle, WA
- 2011 – 2015 Associate Professor (with tenure)
Department of Genome Sciences, University of Washington, Seattle, WA
- 2007 – 2011 Assistant Professor
Department of Genome Sciences, University of Washington, Seattle, WA
- 1998 – 2007 Medical Scientist Training Program (MSTP) Candidate
Department of Genetics, Harvard Medical School, Boston, WA
- 1997 – 1998 Research Scientist
Vaccine Division, Merck Research Laboratories, Rahway, NJ
- 1996 – 1997 Fulbright Scholar to India
Department of Pediatrics, Sassoon General Hospital, Pune, India

Honors, Awards, Named Lectures

- 2022 Mendel Lecturer
European Society of Human Genetics
- 2019 Richard Lounsbery Award (for extraordinary scientific achievement in biology & medicine)
National Academy of Sciences
- 2019 Jeffrey M. Trent Lectureship in Cancer Research
National Human Genome Research Institute, National Institutes of Health
- 2019 Paul D. Gottlieb Distinguished Lectureship
University of Texas, Austin
- 2019 AAAS Fellow
American Association for the Advancement of Science
- 2018 Allan C. Wilson Memorial Lectureship
University of California, Berkeley
- 2018 Richard and Carol Hertzberg Prize (for technology innovation)
University of California, San Diego
- 2018 Dr. Nancy C. Andrews Physician-Scientist Lectureship
Duke University
- 2017 British Society of Genetic Medicine Lectureship
British Society of Genetic Medicine
- 2015 HHMI Investigator
Howard Hughes Medical Institute
- 2014 Cell “40 under 40”
Cell 40th Anniversary, Cell Press
- 2014 7th Annual Scripps Genomic Medicine Award
Scripps Health
- 2014 HudsonAlpha Prize for Life Sciences
HudsonAlpha Institute for Biotechnology
- 2013 FEDERAprijs
Federation of Dutch Medical Scientific Societies
- 2013 NIH Director’s Pioneer Award
National Institutes of Health
- 2012 Curt Stern Award
American Society of Human Genetics
- 2010 Lowell Milken Young Investigator (2010-2013)
Prostate Cancer Foundation
- 2008 Science in Medicine New Investigator Lecture
University of Washington
- 2008 3rd Annual Tomorrow’s PIs
Genome Technology Magazine
- 2007 James Tolbert Shipley Prize
Harvard Medical School
- 2006 TR35 Young Innovator Award
M.I.T. Technology Review

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- 1998 Medical Science Training Program Fellowship
National Institutes of Health
- 1996 Fulbright Scholarship
U.S. State Department
- 1996 *summa cum laude*
Princeton University
- 1996 Honorary Major in Anthropology
Princeton University
- 1996 Sigma Chi Book Award for Molecular Biology Senior Thesis ("*The Genetics of Alcohol Consumption: QTLs Affecting Ethanol Consumption in Inbred Mice*")
Princeton University
- 1996 Senior Prize for Best Thesis in Anthropology ("*Homunculi, Polyps and the Generation of Beings: Interpreting Theory Change in Biology*")
Princeton University
- 1996 Phi Beta Kappa
Princeton University
- 1992 National Merit Scholar
Solon High School

Academic Consortium Leadership & Scientific Advisory Roles

- 2021 – present Open Targets (Scientific Advisory Board)
- 2020 – present Seattle Coronavirus Assessment Network (SCAN) (Co-Lead Investigator)
- 2020 – present New York Genome Center (Scientific Advisory Board)
- 2018 – present Seattle Flu Study (Co-Lead Investigator)
- 2018 – present Allen Institute for Immunology (Scientific Advisory Board)
- 2018 – present Chan Zuckerberg Initiative (Human Cell Atlas Scientific Advisory Board)
- 2017 – present Science (Board of Reviewing Editors)
- 2017 – present Allen Institute for Cell Science (Stem Cells and Gene Editing Advisory Council)
- 2017 – 2020 Advisory Committee to NIH Director (ACD), National Institutes of Health (Member)
- 2014 – 2018 NIH/NHGRI National Advisory Council for Human Genome Research (Member)
- 2015 Advisory Committee to NIH Director: Working Group on US Precision Medicine Initiative (Member)
- 2015 – 2018 NIH/OD 4D Nucleome Network (Steering Committee)
- 2012 – 2014 Joint Genome Institute, Department of Energy (Scientific Advisory Board)
- 2012 – 2015 NIH/NHGRI Centers for Mendelian Genomics (Steering Committee)
- 2009 – 2012 NIH/NHLBI Exome Sequencing Project (Steering Committee)

Other Journal Editorial Boards

- 2020 – present Cell Genomics (Editorial Board)
- 2015 – present Genome Medicine (Editorial Board)

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- 2015 – present Molecular Case Studies (Editorial Board)
- 2014 – present Genetics (Associate Editor)
- 2014 – present Human Molecular Genetics (Editorial Board)
- 2011 – present Human Genetics (Editorial Board)
- 2010 – present Genome Biology (Editorial Advisory Board)
- 2009 – present Genome Research (Editorial Board)
- 2011 – 2018 Biotechniques (Editorial Board)
- 2009 – 2012 American Journal of Human Genetics (Associate Editor)

Meeting & Symposium Organization

- 2019 – present Biology of Genomes, Cold Spring Harbor Labs
- 2020 – 2021 Hindsight 2020 Developmental Recording Symposium, Allen Institute
- 2015 – 2019 Genomics of Rare Diseases, Wellcome Genome Campus
- 2018 UW Genome Sciences / Brotman Baty Institute Symposium – “*The Personal Genome: Sequencing, Understanding and Editing the Genome to Improve Human Health*”
- 2014 UW Genome Sciences Symposium – “*Genetic Networks - From Model Organisms to Human Disease*”
- 2010 UW Genome Sciences Symposium & Panel Discussion – “*New Discoveries in Medicine: Implications for the Cost and Quality of American Healthcare*”

Commercial Scientific Advisory Board and Consulting Roles

- 2022 – present Prime Medicine (Scientific Advisory Board)
- 2020 – present Cajal Neuroscience (Scientific Advisory Board)
- 2016 – present Guardant Health (Scientific Consultant)
- 2018 – present Maze Therapeutics (Scientific Advisory Board)
- 2018 – present Camp4 Therapeutics (Scientific Advisory Board)
- 2015 – present Phase Genomics (Founder; Scientific Advisory Board)
- 2010 – present Adaptive Biotechnologies (Scientific Advisory Board)
- 2009 – 2020 Stratos Genomics (Scientific Advisory Board)
- 2016 – 2019 Nanostring (Scientific Advisory Board)
- 2016 – 2019 Bellwether Bio (Founder; Scientific Consultant)
- 2016 – 2019 Cambridge Epigenetix (Scientific Advisory Board)
- 2013 – 2018 GenePeeks (Scientific Advisory Board)
- 2009 – 2017 Good Start Genetics (Scientific Advisory Board)
- 2013 – 2017 Gen9 (Scientific Advisory Board)
- 2010 – 2015 Ariosa Diagnostics (Scientific Consultant)
- 2013 – 2015 Ingenuity Systems (Scientific Advisory Board)
- 2013 – 2015 Rubicon Genomics (Scientific Advisory Board)

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- 2012 Merck Research Laboratories (Scientific Consultant)
- 2010 – 2011 Halo Genomics (Scientific Advisory Board)
- 2008 – 2009 Complete Genomics (Scientific Consultant)
- 2006 Highland Capital Partners (Scientific Consultant)
- 2004 – 2005 Agencourt Biosciences (Scientific Consultant)

Faculty Administrative Responsibilities (University of Washington)

- 2020 – 2021 Member, Faculty Search Committee (Genome Sciences)
- 2017 – 2018 Member, Faculty Search Committee (Genome Sciences)
- 2016 – 2017 Member, Faculty Search Committee (Biology)
- 2013 – 2017 Member, Faculty Search Committee (Institute for Protein Design)
- 2008 – 2013 Member, Faculty Search Committee (Medical Genetics)
- 2010 – 2012 Member, Faculty Search Committee (Genome Sciences)
- 2008 – 2009 Member, Faculty Search Committee (Genome Sciences)

- 2021 – 2022 Member, Seminar Series Committee (Genome Sciences)
- 2014 – 2015 Member, Seminar Series Committee (Genome Sciences)
- 2013 – 2014 Chair, Seminar Series Committee (Genome Sciences)
- 2008 – 2009 Member, Seminar Series Committee (Genome Sciences)

- 2009 Organizer, Departmental Retreat (Genome Sciences)

- 2012 – 2013 Co-chair, Scientific Discovery Subcommittee for Curriculum Renewal
- 2009 Member, U.W. "Two Years to Two Decades" (2y2d) initiative, Discovery focus group

Reviewer (ad hoc)

American Journal of Human Genetics	Nature
Analytical Chemistry	Nature Biotechnology
Bioinformatics	Nature Genetics
Biotechniques	Nature Medicine
BMC Genomics	Nature Methods
Cell	Nature Neuroscience
Cell Stem Cell	Nature Protocols
Cellular & Molecular Biology Letters	Nature Reviews Genetics
eLife	Neuron
Genetics in Medicine	New England Journal of Medicine
Genome Biology	Nucleic Acids Research
Genome Research	PLoS Computational Biology
Genomics	PLoS Genetics
Human Mutation	Proceedings of the National Academy of Sciences
Mammalian Genome	Science
Molecular Cell	Science Translational Medicine
Molecular Systems Biology	Trends in Genetics

Grant Review & Related Service

Note: My roles as an advisor on the NIH ACD and/or NACHGR precluded NIH CSR service from 2014-2020. The sole exception below was due to an oversight.

- 2022 Chair, NHGRI Single Molecule Protein Sequencing Special Emphasis Panel, NIH
- 2021 Reviewer, Investigator Competition, Howard Hughes Medical Institute
- 2020 Reviewer, Wellcome Sanger Quinquennial Review
- 2018 Reviewer, Investigator Competition, Howard Hughes Medical Institute
- 2017 Reviewer, International Scholars Competition, Howard Hughes Medical Institute
- 2017 Reviewer, Advanced Genomic Technology Development Special Emphasis Panel, NIH
- 2016 Reviewer, Faculty Scholars Competition, Howard Hughes Medical Institute
- 2014 Reviewer, Paul G. Allen Family Foundation ADI 2014 Life Science Focus
- 2014 Reviewer, TEDDY Whole Genome Sequencing Lab RFP, NIH
- 2014 Reviewer, NIDDK Special Emphasis Panel, NIH
- 2013 Reviewer, NICHD Special Emphasis Panel, NIH
- 2013 Reviewer, 63th Annual Meeting of American Society of Human Genetics
- 2013 Reviewer, The Wellcome Trust
- 2011 Reviewer, W. M. Keck Foundation
- 2011 Reviewer, Lasker Clinical Research Scholars Program
- 2010 Reviewer, UK Medical Research Council, Molecular and Cellular Medicine Board
- 2009 Reviewer, National Science Foundation
- 2009 Reviewer, NIH ARRA Challenge Grants (Genes, Genomes and Genetics IRG), NIH
- 2009 Reviewer, Ontario Research Fund (GL2 Competition)
- 2008 Reviewer, Genome BritishColumbia

Postdoctoral Fellows Trained (University of Washington)

- 2022 – present Elizabeth Vincent, Ph.D. (joint trainee with David Beier)
- 2021 – present Sanjay Srivatsan, Ph.D. (joint trainee with Cole Trapnell)
- 2021 – present Xiaoyi Li, Ph.D.
- 2021 – present Riddhiman Garge, Ph.D. (joint trainee with Lea Starita)
- 2020 – present Troy McDiarmid, Ph.D.
- 2020 – present Alexander Boulgakov, Ph.D.
- 2020 – present Eva Nichols, Ph.D. (joint trainee with Brian Beliveau)
- 2020 – present Jean-Benoît Lalanne, Ph.D.
- 2020 – present Nobu Hamazaki, Ph.D.
- 2019 – present Junhong Choi, Ph.D.
- 2019 – present Diego Calderon, Ph.D. (joint trainee with Cole Trapnell)
- 2018 – present Silvia Domcke Ph.D.
- 2020 – 2021 Jase Gehring, Ph.D. (Investigator, Arcadia Science)

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- 2018 – 2021 Jacob Tome, Ph.D. (Research Scientist, Shape Therapeutics)
- 2018 – 2020 Ronnie Blecher, Ph.D. (Associate Researcher, Weizmann Institute of Science)
- 2016 – 2020 Yi Yin, Ph.D. (Assistant Professor, Human Genetics, UCLA)
- 2015 – 2019 Vikram Agarwal, Ph.D. (Computational Biologist, Calico Labs / Google)
- 2015 – 2017 Lea Starita, Ph.D. (Assistant Professor, Genome Sciences, University of Washington)
- 2014 – 2019 Bridget Kulasekara, Ph.D. (Senior Research Scientist, University of Washington)
- 2014 – 2018 Jes Alexander, Ph.D.
- 2016 – 2018 Malte Spielmann, M.D. (Professor & Head, Institute for Human Genetics, University of Lübeck)
- 2014 – 2018 Darren Cusanovich, Ph.D. (Assistant Professor, Cellular & Molecular Medicine, University of Arizona)
- 2012 – 2017 Martin Kircher, Ph.D. (Group Leader, Berlin Institute of Health)
- 2014 – 2016 Ron Hause, Ph.D. (VP, Head of Analytics and Informatics, Shape Therapeutics)
- 2011 – 2015 Stephen Salipante, M.D., Ph.D. (Associate Professor, Laboratory Medicine & Pathology, University of Washington)
- 2009 – 2013 Jerrod Schwartz, Ph.D. (Vice President, Advanced Technology, ChromaCode)
- 2009 – 2013 Brian O’Roak, Ph.D. (joint trainee with Evan Eichler; Associate Professor, Molecular & Medical Genetics, Oregon Health & Science University)
- 2007 – 2009 Emily Turner, Ph.D. (Program Officer, Bill & Melinda Gates Foundation)

Graduate Students Trained (University of Washington)

- 2020 – Present Hanna Liao (Molecular & Cellular Biology)
- 2020 – Present Tony Li (Genome Sciences)
- 2020 – Present Aidan Keith (Genome Sciences)
- 2020 – Present Wei Yang (Genome Sciences)
- 2020 – Present Chase Suiter (Molecular & Cellular Biology)
- 2019 – Present Chengxiang (CX) Qiu (Genome Sciences)
- 2018 – Present Florence Chardon (Genome Sciences; joint trainee with Lea Starita)
- 2018 – Present Sam Regalado (MSTP; Genome Sciences; joint trainee with Cole Trapnell)
- 2018 – Present Xingfang (Fanny) Huang (Computer Science & Engineering)
- 2017 – Present Anna Minkina (Genome Sciences)
- 2016 – Present Wei Chen (Molecular Engineering)

- 2015 – 2019 Molly Gasperini (Genome Sciences; dissertation entitled “Efficiently searching for enhancers and their target genes in the human genome”; Research Scientist, Cajal Neuroscience)
- 2015 – 2019 Andrew Hill (Genome Sciences; dissertation entitled “Expanding the scope and utility of single-cell genomic technologies”; Computational Biologist, 10X Genomics)
- 2014 – 2019 Seungsoo Kim (Genome Sciences; dissertation entitled “Maps and mechanisms of three-dimensional genome organization”; Postdoctoral Fellow, Wysocka Lab)
- 2016 – 2019 Junyue Cao (Molecular & Cellular Biology; dissertation entitled “Cell state and fate

- characterization by high-throughput single cell genomics”; Assistant Professor, Rockefeller University)
- 2015 – 2019 Hannah Pliner (Genome Sciences; joint trainee with Cole Trapnell; dissertation entitled “Algorithms for modeling gene regulation and determining cell type using single-cell molecular profiles”; Research Scientist, Computational Biology and Epigenetics, Bristol Myers Squibb)
 - 2015 – 2018 Jason Klein (Medical Scientist Training Program, Genome Sciences; dissertation entitled “Massively Parallel Characterization of Enhancers in Evolution and Disease”; Resident Physician (dermatology), UT Southwestern)
 - 2015 – 2018 Greg Findlay (Medical Scientist Training Program, Genome Sciences; dissertation entitled “High-throughput interrogation of genome function and cellular lineage”; Group Leader, Crick Institute)
 - 2014 – 2017 Vijay Ramani (Genome Sciences; dissertation entitled “Massively parallel analysis of nucleic acid structure”; Assistant Professor, Biochemistry & Biophysics, Gladstone Institutes & UCSF)
 - 2013 – 2017 Aaron McKenna (Genome Sciences; dissertation entitled “Whole-organism lineage tracing by combinatorial and cumulative genome editing”; Assistant Professor, Molecular & Systems Biology, Dartmouth University)
 - 2012 – 2016 Matthew Snyder (Genome Sciences; dissertation entitled “Expanding the accuracy, resolution, and breadth of cell-free DNA investigation”; Manager, Bioinformatics, Guardant Health)
 - 2011 – 2014 Joshua Burton (Genome Sciences; dissertation entitled “New methods for de novo assembly of genomes and metagenomes”; Associate Director of Computational Biology, Resolution Bioscience)
 - 2010 – 2014 Akash Kumar (Medical Scientist Training Program, Genome Sciences; dissertation entitled “Mutational Heterogeneity in Cancer: Lessons from the Brain and Prostate”; Adjunct Clinical Instructor, Stanford University).
 - 2010 – 2014 Andrew Adey (Molecular & Cellular Biology; dissertation entitled “Comprehensive, precision genomics”; Associate Professor, Molecular & Medical Genetics, OHSU)
 - 2009 – 2013 Jacob Kitzman (Genome Sciences; dissertation entitled “New technologies for sequencing and interpreting genomes”; Assistant Professor, Genetics, University of Michigan)
 - 2009 – 2012 Joseph Hiatt (Medical Scientist Training Program, Genome Sciences; dissertation entitled “Molecular tagging to overcome limitations of massively parallel sequencing”; Acting Instructor, Seattle Cancer Care Alliance)
 - 2007 – 2012 Sarah Ng (Genome Sciences; dissertation entitled “Next Generation Mendelian Genetics”; Head, Genome Innovation Lab, Genome Institute of Singapore)
 - 2007 – 2012 Rupali Patwardhan (Genome Sciences; dissertation entitled “Massively parallel functional dissection of regulatory elements”; Software Engineer, Facebook)

Rotation Students Supervised (University of Washington)

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|-------------------|-----------------|-------------|
| • Shruti Jain | Genome Sciences | Spring 2022 |
| • Elliott Swanson | Genome Sciences | Spring 2022 |
| • Sydney Sattler | Genome Sciences | Winter 2021 |
| • Connor Kubo | Genome Sciences | Winter 2021 |
| • David Lee | Genome Sciences | Fall 2020 |

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• Aidan Keith	Genome Sciences	Spring 2021
• Hanna Liao	Molecular & Cellular Biology	Spring 2021
• Tony Li	Genome Sciences	Fall 2020
• Yuzhen Li	Molecular & Cellular Biology	Spring 2020
• Conor Camplisson	Genome Sciences	Winter 2020
• Wei Yang	Genome Sciences	Winter 2020
• Andrew Mullen	MSTP program	Summer 2019
• Chase Suiter	Molecular & Cellular Biology	Summer 2019
• Shawn Fayer	Genome Sciences	Spring 2019
• Chengxiang Qiu	Genome Sciences	Winter 2019
• James Anderson	Molecular & Cellular Biology	Winter 2019
• Eliza Barkan	Molecular & Cellular Biology	Fall 2018
• Michael Goldberg	Genome Sciences	Spring 2018
• Florence Chardon	Genome Sciences	Spring 2018
• Phillip Dishuck	Genome Sciences	Winter 2018
• William DeWitt	Genome Sciences	Fall 2017
• Xingfang Huang	Computer Science & Engineering	Fall 2017
• Sam Regalado	Genome Sciences	Summer 2017
• Ian Smith	Genome Sciences	Spring 2017
• April Lo	Genome Sciences	Spring 2017
• Anna Minkina	Genome Sciences	Fall 2016
• Wei Chen	Molecular Engineering	Spring 2016
• Eliah Overbey	Genome Sciences	Spring 2016
• Junyue Cao	Molecular & Cellular Biology	Summer 2015
• Molly Gasperini	Genome Sciences	Spring 2015
• Serena Liu	Genome Sciences	Spring 2015
• Hannah Pliner	Genome Sciences	Winter 2015
• Damon May	Genome Sciences	Winter 2015
• Andrew Hill	Genome Sciences	Fall 2014
• Vijay Ramani	Genome Sciences	Winter 2014
• Seungsoo Kim	Genome Sciences	Winter 2014
• Jason Klein	MSTP program	Summer 2013
• Hugh Haddox	Molecular & Cellular Biology	Spring 2013
• Aaron McKenna	Genome Sciences	Winter 2013
• Greg Findlay	MSTP program	Summer 2012
• Matthew Snyder	Genome Sciences	Spring 2012
• Jorgen Nelson	Genome Sciences	Winter 2012
• Elyse Hope	Genome Sciences	Winter 2012
• Meara Davies	Molecular & Cellular Biology	Fall 2011
• Josh Burton	Genome Sciences	Winter 2011
• Jenny Wagner	Genome Sciences	Winter 2011
• Andrew Adey	Molecular & Cellular Biology	Fall 2009
• David Young	MSTP program	Summer 2009
• Akash Kumar	MSTP program	Summer 2009
• Jacob Kitzman	Genome Sciences	Spring 2009
• Keisha Carlson	Genome Sciences	Winter 2009
• Jarrett Egerston	Genome Sciences	Winter 2009
• Matthew Maurano	Genome Sciences	Fall 2008

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- Joseph Hiatt MSTP program Summer 2008
- Sayer Herrin Genome Sciences Winter 2008
- Rupali Patwardhan Genome Sciences Winter 2008
- Sarah Ng Genome Sciences Fall 2007

Graduate Student Committees (in addition to own trainees)

- 2020 – Present Eliza Barkan U.W. Genome Sciences Advisor: Cole Trapnell
- 2019 – Present Robin Aguilar U.W. Genome Sciences Advisor: Bill Noble
- 2019 – Present Gesine Cauer U.W. Genome Sciences Advisor: Bill Noble
- 2018 – Present Sanjay Srivatsan U.W. Genome Sciences Advisor: Cole Trapnell
- 2018 – Present Andria Ellis U.W. Genome Sciences Advisor: Cole Trapnell
- 2018 – Present Ian Smith U.W. Genome Sciences Advisor: Judit Villen
- 2016 – Present Nuttada Panpradist U.W. Bioengineering Advisor: Barry Lutz
- 2017 – 2020 Robin Kirkpatrick U.W. Genome Sciences Advisor: Jesse Zalatan
- 2016 – 2020 Wei Zhou U.W. Molecular & Cellular Biology Advisor: Stan Fields
- 2016 – 2020 Clara Amorosi U.W. Genome Sciences Advisor: Maitreya Dunham
- 2015 – 2020 Ian Nova U.W. Molecular Engineering Advisor: Jens Gundlach
- 2015 – 2020 Melissa Chiasson U.W. Genome Sciences Advisor: Doug Fowler
- 2018 – 2019 Peter Ney U.W. Comp. Science & Engineering Advisor: Tadayoshi Kohno
- 2016 – 2019 Rebecca Zaunbrecher U.W. Bioengineering Advisor: Mike Regnier
- 2016 – 2019 Aaron Wolf U.W. Genome Sciences Advisor: Josh Akey
- 2014 – 2019 Piero Lamelza U.W. Molecular & Cellular Biology Advisor: Michael Ailion
- 2013 – 2018 Jorgen Nelson U.W. Genome Sciences Advisor: David Baker
- 2015 – 2018 John Crowl U.W. Immunology Advisor: Dan Stetson
- 2015 – 2017 Jocelynn Pearl U.W. Molecular & Cellular Biology Advisor: Lee Hood
- 2014 – 2017 Hugh Haddox U.W. Molecular & Cellular Biology Advisor: Jesse Bloom
- 2011 – 2017 Jennifer Andrie U.W. Genome Sciences Advisor: Josh Akey
- 2015 – 2016 Alexander Rosenberg U.W. Electrical Engineering Advisor: Georg Seelig
- 2013 – 2016 David Young U.W. Genome Sciences Advisor: Stan Fields
- 2012 – 2015 Benjamin Vernot U.W. Genome Sciences Advisor: Josh Akey
- 2011 – 2015 Vaughn Iverson U.W. Oceanography Advisor: Virginia Armbrust
- 2012 – 2014 Andrew Laszlo U.W. Physics Advisor: Jens Gundlach
- 2012 – 2014 Niklas Krumm U.W. Genome Sciences Advisor: Evan Eichler
- 2010 – 2014 Russell Berg U.W. Molecular & Cellular Biology Advisor: Lalita Ramakrishnan
- 2010 – 2014 Keisha Carlson U.W. Genome Sciences Advisor: Christine Queitsch
- 2010 – 2014 Leslie Emery U.W. Genome Sciences Advisor: Josh Akey
- 2010 – 2013 Peter Sudmant U.W. Genome Sciences Advisor: Evan Eichler
- 2010 – 2013 Thomas White U.W. Molecular & Cellular Biology Advisor: Peter Nelson
- 2010 – 2013 Benjamin Whiddon U.W. Genome Sciences Advisor: Richard Palmiter
- 2009 – 2013 Cailyn Spurrell U.W. Genome Sciences Advisor: Mary-Claire King
- 2008 – 2013 Alan Rubin U.W. Genome Sciences Advisor: Phil Green
- 2011 – 2012 Lucas Gray U.W. Biochemistry Advisor: Alan Weiner
- 2009 – 2012 Joshua Bishop U.W. Electrical Engineering Advisor: Eric Klavins
- 2009 – 2012 Kyle Minch U.W. Molecular & Cellular Biology Advisor: David Sherman
- 2011 Sung Hang U.W. Neurobiology and Behavior Advisor: William Catterall
- 2010 Carlos Araya U.W. Genome Sciences Advisor: Stanley Fields

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- 2008 – 2010 Steven Josefowicz U.W. Immunology Advisor: Sasha Rudensky
- 2008 – 2010 Kevin Schutz U.W. Genome Sciences Advisor: Stan Fields
- 2008 – 2010 Marcia Paddock U.W. Immunology Advisor: Andy Scharenberg

Courses Taught

- 2008 – present GENOME 550 – “Methods and Logic in Genetics” (University of Washington)
Graduate seminar course; co-taught with Bob Waterston, Alejandro Wolf-Yadlin or Christine Queitsch
- 2017/19/21 GENOME 373 – “Genomics & Proteomics” (University of Washington)
Undergraduate lecture course; co-taught with Jim Bruce
- 2012 – 2016 HUBIO 554 – “Genetics” (University of Washington)
Medical school 2nd year pre-clinical curriculum; co-chaired with Heather Mefford
- 2012 – 2015 CONJOINT 511 – “Genetic Anatomy” (University of Washington)
Medical school 1st year elective; co-taught w/ Marshall Horwitz and John Clark
- 2010 – 2012 GENOME 373 – “Genome Informatics” (University of Washington)
Undergraduate lecture course; co-taught with Jim Thomas or Elhanan Borenstein
- 2001 – 2003 “Principles of Pharmacology” (Harvard Medical School)
Teaching assistant, 1st year medical school course

Issued Patents &

- Polony fluorescent in situ sequencing beads (7,425,431)
- Sequence tag directed subassembly of short sequencing reads into long sequencing reads (8,846,347; 8,383,345; 10,227,585)
- Error detection in sequence tag directed subassemblies of short sequencing reads (8,865,410; 10,577,601)
- Nanogrid rolling circle DNA sequencing (9,624,538)
- Methods for retrieval of sequence-verified DNA constructs (9,809,904)
- Massively parallel contiguity mapping (10,457,936)

Published Patent Applications

- High-throughput single-cell transcriptome libraries and methods of making and using (20210102194; 20220033805)
- Diagnosis of cancer or other physiological condition using circulating nucleic acid fragment sentinel endpoints (20200255905)
- High-throughput single-cell sequencing with reduced amplification bias (20190382753)
- Multiplex pairwise assembly of DNA oligonucleotides (application; 20180320166)
- Determining a physiological condition in an individual by analyzing cell-free DNA fragment endpoints in a biological sample (20190309374)
- Methods of determining tissues and/or cell types giving rise to cell-free dna, and methods of identifying a disease or disorder using same (20170211143; 20190127794)
- A framework for determining the relative effects of genetic mutations (20160357903)

- Methods and systems for large scale scaffolding of genome assemblies (20160239602)
- Multiplex homology-directed repair (20160076093)
- Systems, Algorithms, and Software for Molecular Inversion Probe (MIP) Design (20160055293)
- Highly multiplex single amino acid mutagenesis for massively parallel functional analysis (20160017410)
- Whole genome sequencing of a human fetus (20150105267)
- Multiplex decoding of sequence tags in barcodes (20080269068)
- Wobble sequencing (20070207482)
- Nucleic acid memory device (20030228611; 20100099080)

Preprints & Publications (* denotes equal contributors; # or ^ denotes corresponding or senior authorship; grey numbers denote primary publications, defined as those on which I and/or a member of my lab are a corresponding, senior and/or a first author)

Preprints

346. Choi J^{*#}, Chen W, Minkina A, Chardon FM, Suiter CC, Regalado SG, Domcke S, Hamazaki N, Lee C, Martin B, Daza RM, **Shendure J[#]**. A temporally resolved, multiplex molecular recorder based on sequential genome editing. *bioRxiv* 2021.11.05.467388 (posted 5-Nov-2021).
345. Chen W^{**}, Choi J^{*}, Nathans JF, Agarwal V, Martin B, Nichols E, Leith A, Lee C, Shendure J[#]. Multiplex genomic recording of enhancer and signal transduction activity in mammalian cells. *bioRxiv* 2021.11.05.467434 (posted 5-Nov-2021).
344. Martin BK[#], Qiu C, Nichols E, Phung M, Green-Gladden R, Srivatsan S, Blecher-Gonen R, Beliveau BJ, Trapnell C, Cao J, **Shendure J[#]**. An optimized protocol for single cell transcriptional profiling by combinatorial indexing. *arXiv* 2110.15400 (posted 28-Oct-2021).
343. Glaser AK[#], Bishop KW, Barner LA, Susaki EA, Kubota SI, Gao G, Serafin RB, Balaram P, Turschak E, Nicovich PR, Lai H, Lucas LAG, Yi Y, Nichols EK, Huang H, Reder NP, Wilson JJ, Sivakumar R, Shamskhou E, Stoltzfus CR, Wei X, Hempton AK, Pende M, Murawala P, Dodt HU, Imaizumi T, **Shendure J**, Beliveau BJ, Gerner MY, Xin L, Zhao H, True LD, Reid RC, Chandrashekar J, Ueda HR, Svoboda K, Liu JTC[#]. A hybrid open-top light-sheet microscope for multi-scale imaging of cleared tissues. *bioRxiv* 2020.05.06.081745 (posted 13-Sep-2021).
342. Anderson DJ, Pauler FM, McKenna A, **Shendure J**, Hippenmeyer S, Horwitz MS[#]. Simultaneous Identification of Brain Cell Type and Lineage via Single Cell RNA Sequencing. *bioRxiv* 2020.12.31.425016 (posted 1-Jan-2021).
341. Bedford T, Logue JK, Han PD, Wolf CR, Frazar CD, Pelle B, Ryke E, Hadfield J, Lee J, Rieder MJ, Nickerson DA, Lockwood CM, Starita LM, Chu HY, **Shendure J**. Viral genome sequencing places White House COVID-19 outbreak into phylogenetic context. *medRxiv* 2020.10.31.20223925 (posted 13-Nov-2020).
340. Calderon D, Ellis A, Daza RM, Martin B, Tome JM, Chen W, Chardon FM, Leith A, Lee C, Trapnell C[#], **Shendure J[#]**. TransMPRA: A framework for assaying the role of many trans-acting factors at many enhancers. *bioRxiv* 2020.09.30.321323 (posted 1-Oct-2020).
339. Guo L, Boocock J, Tome JM, Chandrasekaran S, Hilt EE, Zhang Y, Sathe L, Li X, Luo C, Kosuri S, **Shendure J**, Arboleda VA, Flint J, Eskin E, Garner OB, Yang S, Bloom JS[#], Kruglyak L[#], Yin Y[#]. Rapid cost-effective viral genome sequencing by V-seq. *bioRxiv* 2020.08.15.252510 (posted 15-Aug-2020).
338. Ryu H, Inoue F, Whalen S, Williams A, Kircher M, Martin B, Alvarado B, Md. Samee AH, Keough K, Thomas S, Kriegstein A, **Shendure J**, Pollen A, Ahituv N[#], Pollard KS[#]. Massively parallel dissection of

human accelerated regions in human and chimpanzee neural progenitors. *bioRxiv* 256313 (posted 29-Jan-2018).

Peer-Reviewed Publications

337. Qiu C[#], Cao J, Martin BK, Li T, Welsh IC, Srivatsan S, Huang X, Calderon D, Noble WS, Disteche CM, Murray SA, Spielmann M, Moens CB, Trapnell C, **Shendure J**[#]. Systematic reconstruction of cellular trajectories across mouse embryogenesis. *Nature Genetics* 2022 Mar;54(3):328-341.
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