School of Biological Sciences (SBS)

University of Utah

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Google Scholar: <https://scholar.google.com/citations?user=sVhtSVIAAAAJ&hl=en>

**PROFESSIONAL EXPERIENCE**

2018-present Assistant Professor, School of Biological Sciences, University of Utah

2019-2022 Mario R. Capecchi Endowed Chair in Biology

2019-present Member, Center for Genomic Medicine

2018-present Member, Henry Eyring Center for Cell & Genome Science

2011-2017 Postdoctoral Fellow, Harvard University

Advisor: Dr. Alexander F. Schier

2004-2010 Graduate Student, Brown University

Advisor: Dr. Kimberly L. Mowry

2002-2003 Research Assistant, University of Massachusetts Medical School

Advisors: Drs. Jane Lian & Stephen Jones (joint)

**EDUCATION**

2003-2011 Brown University, Providence, Rhode Island. Ph.D.

1999-2003 Worcester Polytechnic Institute, Worcester, Massachusetts. B.S.

**CURRENT FUNDING**

2021-2026 NIH NIGMS R35 (ESI-MIRA)

 *Cellular and molecular mechanisms of vertebrate testis homeostasis*

$1,250,000 direct costs to Gagnon lab (+ indirects)

2023-2024 Utah Data Science Hub seed grant

 *Predicting perturbation phenotypes in the vertebrate brain*

$50,000 direct costs to Gagnon lab

2022-2023 NIH NIGMS Diversity Supplement to R35

 $71,871 direct costs to Gagnon lab (+ indirects)

2018-present Startup funds from the University of Utah

**PENDING FUNDING**

2023 College of Science Seed Grant with Michael Shapiro (submitted Dec 2023)
 *Establishing the larval zebrafish as a model of fever*

2023 NIH ORIP R24 with Randall Peterson (A1 May 2023, Impact Score 13)

 *Multimodal phenotyping of zebrafish models of human disease*

 $1,000,000 direct costs to Gagnon lab (+ indirects)

**PAST FUNDING**

2020-2022 United States-Israel Binational Science Foundation start-up grant

Co-lead PI with Yaniv Elkouby

*Decoding mechanisms and lineages of germline stem cells in the zebrafish ovary*

$65,218 direct costs to Gagnon lab (+ indirects)

2020-2022 Chan-Zuckerberg Initiative Inflammation grant

Lead PI with co-investigators Nels Elde and Kristen Kwan

*Integrated imaging and single-cell genetic recording of inflammation*

$297,500 direct costs to Gagnon lab (+ indirects)

2019-2022 Mario R. Capecchi Endowed Chair in Biology

 ~$120,000 direct costs to Gagnon lab

2020-2021 1U4U seed grant (internal)

Lead PI with co-investigators Aaron Quinlan and Blair Sullivan

 *Integrating lineage across individuals with phylogenetic tree comparison*

$30,000 direct costs to Gagnon lab

2020-2021 VPR Office Research Instrumentation Fund application (internal)

 Co-PI with Colin Dale

 Supported the acquisition of a MiSeq and related equipment for SBS/CCGS

 $90,477 all towards instrumentation purchase

2020 NIH CvDC Consortia of the Bench to Bassinet Program grant (external)

Lead PI with co-investigator Joe Yost

*Single-cell transcriptional responses to cardiac injury in zebrafish and medaka*

$27,640 direct costs to Gagnon lab

**SUBMITTED BUT NOT FUNDED GRANTS**

2023 NSF EAGER with Martin Haesemeyer (LOI submitted Sept 2023)

2023 Collaborative Pairs Pilot Project with Martin Haesemeyer Letter of Intent (submitted June 2023)

2022 NIH ORIP R24 with Randall Peterson (A0 October 2022, Impact Score 47)

2022 NIH ORIP R21 (A0 June 2022, Impact Score 42)

2022 Howard Hughes Medical Institute Emerging Pathogens Initiative Letter of Intent w/ Nels Elde, Talia Karasov, and Nichole Link (not selected)

2021 W.M. Keck Foundation Research Program Grant w/ Aaron McKenna and Dionna Kasper (Phase I not selected)

2021 NIH NICHD R21 (A0 October 2021, Percentile 27%, Impact Score 36)

2021 NIH NICHD R21 (A1 March 2021, Percentile 28%, Impact Score 40)

2020 Pew Scholars Program (not selected)

2020 Mathers Foundation Letter of Intent (not selected)

2020 Burroughs Wellcome Fund Investigators in the Pathogenesis of Infectious Disease Pre-proposal (not selected)

2020 NIH NICHD R21 (A0 June 2020, Percentile 51%, Impact Score 56)

2020 10X Visium Spatial Gene Expression Grant Program (honorary mention)

2019 Pew Scholars Program (not selected)

2019 Keck Foundation Letter of Intent w/ Aaron McKenna (not selected by Keck)

2019 NIH ESI-MIRA (not discussed)

2018 American Cancer Society pilot project (not selected)

2018 Searle Scholars Program (not selected)

2018 NIH Director’s New Innovator Award (not discussed)

2018 Beckman Young Investigator Program Letter of Intent (not selected)

**AWARDS**

2021 Taft-Nicholson Center Summer Faculty Fellow

2019,2020 Nominated for Pew Scholars Program by University of Utah

2019 Mario R. Capecchi Endowed Chair in Biology

2018 Nominated for Searle Scholars Program by University of Utah

2018 Science Magazine Breakthrough of the Year (shared by several labs)

2016 Meselson Prize for experiment of the year, Harvard University

2011 American Cancer Society Postdoctoral Fellowship

2011 Ruth L. Kirschstein NRSA Individual Postdoctoral Fellowship

2010 Full Scholarship to MBL Zebrafish Development & Genetics course

2008 John G. Peterson Predoctoral Fellowship

2006 Brown University NIH Training Grant Appointee

**UNIVERSITY AND DEPARTMENTAL COMMITTEES**

2023 College of Science EDI Committee

2023 Social Media Committee

2021-present SBS Equity, Diversity, and Inclusion Committee (Chair in 2023)

2019-2021 SBS Website Committee

2019,2020 SBS Animal Care/Facilities Committee

2019,2020 Molecular Biology Graduate Program Advising Committee

2018,2019 Biology Department MCEB Recruiting and Admissions

2019 Biology Department Molecular Biology Faculty Search

 Offer to Morgan DeSantis

2018 Biology Department Cell Biology Faculty Search

Offer to Sonya Neal

**COMMUNITY SERVICE – INTERNAL**

2024 Presenter Sci-Fest at the U

2023-present Member Zebrafish Advisory Council

2023-present Organizer SBS Faculty Informal Talk Series

2023-present Member Developmental Biology Training Grant Steering Committee

2023 Member Biology 1610 Course Instructor Search Committee

2022 Representative NDiSTEM conference, representing MCEB grad program

2022-2023 Organizer ‘Bases Loaded’ club for Genomics

2022, 2023 Mentor Summer Program for Undergraduate Research

2021, 2022 Mentor Genomics Summer Research for Minorities

2020 Organizer Gagnon/Elde Joint Lab Social Justice Working Group

2020 Speaker SBS Diversity Fellows Program

2020 Organizer SBS Diversity, Equity, & Inclusion Workgroup

2020-present Member MCEB Capstone Exam Committee

2019-present Member Genetics Training Grant Steering Committee

2019 Member SoBS Director Search Internal Committee

2019 Organizer Junior faculty College of Science Dean Search interviews

2019,2020 Reviewer MCEB Grant writing bootcamp

2018-present Interviewer MCEB Graduate Program applicants

2018-present Interviewer MB Graduate Program applicants

2018-present Interviewer MD/PhD Graduate Program applicants

2018-present Reviewer UROP applications

2018-present Organizer Cell Center seminar series

2018 Judge Poster session, University of Utah Postdoc Poster Competition

2018 Panelist Biosciences First Year Student Retreat

2018 Panelist Biosciences career fair

**COMMUNITY SERVICE – EXTERNAL**

2024 Panelist Leading Edge Postdoc Symposium on Grant Strategy

2024 Session Chair Strategic Conference of Zebrafish Investigators (CA)

2023 Reviewer BMCDB Graduate Program, University of California, Davis

2023 Session Chair European Zebrafish Society Conference, July 2023 (Poland) (Merged into another session)

2023 Session Chair NWSDB Conference – Friday Harbor Laboratories (WA)

2023 Judge Poster session, NWSDB Conference – Friday Harbor Labs (WA)

2021 Session Chair International Zebrafish Conference, June 2021

2020,2022 Judge Poster session, Society for Developmental Biology conference

2020 Organizer Workshop “Single cell approaches in animal development”

 With John Murray for the TAGC conference, Wash. DC, April 2020

Moved to June 2020 (online) due to COVID-19

2019 Judge Poster session, Zebrafish Disease Models conference

2019 Advisor IBM DREAM challenge, Reconstruction of Cell Lineage

2019 Member Program Committee, RECOMB-SEQ 2019 conference

2018 Panelist Utah Fish Conference Faculty AMA panel

2018 Organizer Utah Fish Conference

2018 Judge Poster session, Santa Cruz Developmental Biology meeting

2018 Writer PreLights preprint reviews

**IACUC-APPROVED ANIMAL PROTOCOLS**

2018-2027 00001701 Lineage Tracing with Genome Editing (renewed twice)

2020-2026 20-07013 Heart Regeneration in Zebrafish and Medaka (renewed once)

**PROFESSIONAL SOCIETIES**

Society for Developmental Biology

Genetics Society of America

International Zebrafish Society

**TEACHING**

2024 SCI2715 SRI Research Stream

2024 BIOL7810 Scientific Speaking

2024 BIOL2020 Principles of Cell Biology

2023 BIOL5510 Genes, Development, & Evolution – 1 lecture

2023 BIOL7810 Scientific Speaking

2023 BIOL2020 Principles of Cell Biology

2022 SCI3900 Being Human in STEM – co-instructor

2022 BIOL2020 Principles of Cell Biology

2021 BIOL2870 Frontiers of Biology - 2 lectures (Spring, Fall)

2020 BIOL7961 Introduction to MCEB Research - course organizer, 1 lecture

2020 BIOL2020 Principles of Cell Biology

2019 BIOL2870 Frontiers of Biology - 1 lecture

2019 BIOL7961 Introduction to MCEB Research - course organizer, 1 lecture

2019 BIOL2020 Principles of Cell Biology

2018 BIOL7206 Introduction to MCEB Research - 1 lecture

2018 BIOL2870 Faculty Research Seminar - 1 lecture

**COURSE DEVELOPMENT AND TEACHING INNOVATIONS**

2024 Developed a new SRI research stream course with Kristin Johnson

2023 Member of committee tosynergize material between BIOL1610 and BIOL2020

2020 HHMI Utah Pathways to STEM (UPSTEM) Faculty Fellow

2019 Development of new BIOL2020 curriculum with Julie Hollien, pivot to online in 2020-2022, and back to in-person for 2023

**POSTDOCTORAL TRAINING**

2023-present **Kristin Johnson**

 PhD Northwestern, mentor: Dr. Carol LaBonne

 Awards: NIH T32 Developmental Biology Training Grant 2024, NIGMS F32 Percentile 11%, Impact Score 20

2019-present **Clayton Carey**

 PhD University of Utah, mentor: Dr. Nels Elde

Awards: NHLBI F32 7/2021-6/2024

Presentations: ZIG 2021 (talk), SCDB 2022 (poster), CZB Single Cell 2022 (poster), SBS Department Retreat 2023 (talk)

2019-2023 **Mai Tran** (equal co-mentored with Nels Elde)

 PhD UCSD, mentor: Dr. Kimberly Cooper

Awards: NIGMS F32 12/2021-11/2023

Presentations: 2022 Midwinter Conference of Immunologists (talk), 2022 CZI inflammation network (talk), Keystone Pos. Strand Viruses (poster), IZFC 2022 (poster), ZDM15 2022 (poster)

Next**:** Research Scientist at Jumpcode Genomics, San Diego CA.

2019-2022 **Keir Balla** (lead mentor was Nels Elde, I was a co-mentor and collaborator)

PhD UCSD, mentor: Dr. Emily Troemel

Awards: Microbial Pathogenesis T32 Training Grant

Next: Group leader/PI, Chan Zuckerberg Biohub (San Francisco, CA), started June 2022

**GRADUATE STUDENT TRAINING**

2021-present **Jenna Weber**, MD/PhD program

 Awards: NIH T32 Genetics Training Grant 2023-2025, NICHD F30 August 2023 Impact Score 11
Presentations: Utah Stem Cells and Regenerative Medicine Symposium 2023 (poster), MD/PhD conference 2023 (poster)

2021-present **Alexis Schmid**, MCEB program

 Presentations: SWSDB 2022 (poster), Utah Stem Cells and Regenerative Medicine Symposium 2023 (poster), ISRB 2023 (poster)

 Awards: NIH T32 Developmental Biology Training Grant 2024-2025

2020-present **Sheng Wang**, MCEB program

 Presentations: SCDB 2022 (poster)

2019-present **Andrea Sposato**, MCEB program

Awards: Las Vegas Alumni Scholarship 2019, NIH T32 Developmental Biology Training Grant 2019-2022, NSF GRFP Honorable Mention, SBS EDI Special Award 2021, West Coast SDB meeting 2021 (best grad student talk), College of Science Graduate Innovation Fellowship 2023

Presentations: CSHL Germ Cells 2020 (poster), SWSDB 2021 (flash talk), West Coast SDB meeting 2021 (selected talk), Ithaca College departmental seminar 2022 (invited talk), SDB 2022 (poster), ZIG 2022 (talk), CSHL Germ Cells 2022 (talk)

2019-2023 **Marlen Rice**, MCEB program, Ph.D.

Awards: Accepted into MBL Embryology 2021 course with financial aid, NSF GRFP Honorable Mention, 2nd Place Best Flash Talk SWSDB 2021

Presentations: CSHL Germ Cells 2020 (poster), SWSDB 2021 (flash talk), Dev Bio Retreat 2021 (talk), IZFC 2022 (two flash talks), ZIG 2022 (talk), SDB 2022 (poster)

2018-2021 **Kimberly Truong**, Math Biology, M.S.

 Co-advised by Dr. James Keener (Department of Mathematics)

Awards: Math/Bio RTG fellowships 2018, 2019; NSF GRFP 2019-2021

 Presentations: Keystone Cell Competition 2019 (selected talk)

Next: EPA Fellowship in Computational Biology (Durham NC)

2023 Claire Tobin, MB, rotation

2020 Ping Guo, MCEB, rotation

2020 Samuel Linde, MCEB, rotation

2019 Sarai Smith, MCEB, rotation

2019 Samuel West, MCEB, rotation

2018 Katherine Piscopo, MCEB, rotation

2018 Priscilla Figueroa, MB, rotation

2018 Faith Bowman, MB, rotation

2018 Madison Schrock, MCEB, rotation

**UNDERGRADUATE TRAINING**

5/2023-present **Gigi Skedros** (Biology major, Honors College)

 Awards: School of Biological Sciences Continuing Student Departmental Scholarship, UROP Fall 2023, OUR Small Grant ($500) Fall 2023, UROP Spring 2024

5/2023-present **Jacqueline Hyman** (Biology major, Honors College)

6/2022-present **Julane Muchado** (Biology / Social Work double major, Honors College)

Awards: Genomics Summer Research for Minorities Internship 2022, SACNAS Travel Scholarship 2022, UROP Spring 2023

 Presentations: OUR symposium 2022 (poster), SACNAS 2022 (poster), NHGRI Trainee conference 2023 (lightning talk & poster)

 Publications: https://www.sltrib.com/opinion/letters/2023/07/02/letter-sake-diversity-minority/

11/2020-present **Hailey Hollins** (Biology / Political Science double major, Honors College)

Awards: ACCESS Program 2020, UROP Summer 2021, UROP Spring 2022, Best Undergraduate Poster Dev Bio Retreat 2021, Continuing Student Departmental Scholarship 2022, 2023, Biology Research Scholars Award 2022, People’s Choice Best Poster SCDB 2022, Francis Family Foundation UROP Spring 2023, SPUR 2023, College of Science Promise Scholarship 2023

Presentations: ACCESS symposium 2021 (poster), Dev Bio Retreat 2021 (poster), OUR symposium 2022 (poster), SCDB 2022 (poster), SBS retreat 2022 (poster), published in RANGE: Journal of Undergraduate Research Vol 24:2

5/2022-12/2022 **Hudson Kendall** (Chemistry major)

8/2020-5/2023 **Tajeshree Prakash** (B.S. Biology with honors, Utah 2023)

Awards: Genomics Summer Research for Minorities Internship 2021, Best Poster Presentation SACNAS 2021, Outstanding Talk award DBNY 2021, SPUR 2022, Honorable Mention Best Poster SWSDB 2022, Undergraduate Research Scholar

Presentations: GSRM symposium 2021 (poster), SACNAS 2021 (poster), Developmental Biology New York 2021 (selected talk), OUR symposium 2022 (poster), SWSDB 2022 (poster)

Next: Columbia University Summer Public Health Scholars Program 2023

1/2019-5/2023 **Sahar Kanishka** (B.S. Finance, B.S. Biology with honors, Utah 2023)

Awards: ACCESS Program 2019, Biology Research Scholars Award 2019, UofU Beckman Scholars Program Finalist 2020, UROP Fall 2020, College of Science Outstanding Undergraduate Researcher Award 2021, UofU Beckman Scholars Program 2021-2022, Undergraduate Research Scholar

Presentations: ACCESS symposium 2019 (poster), SBS Retreat 2019 (poster), Developmental Biology New York 2020 (poster), Utah Conference on Undergraduate Research 2020 (poster), 2022 Beckman Symposium in Berkeley CA (poster)

Next: Running a fintech startup in NYC

8/2019-12/2021 **Darren Llewellyn** (B.S. Biology, Utah 2021)

Awards: UROP Summer 2020, Thomas S. Frank Memorial Scholarship 2020, Biology Research Scholar 2021, Runner-up Best Project COMP5360 2021

Presentations: CSHL Germ Cells 2022 (poster)

Next: NIH-funded postbaccalaureate researcher, Gagnon lab, University of Utah; entered the MB PhD program, University of Utah

6/2021-8/2021 **Pear Intasin** (Biology major, Carleton College)

 Presentations: Summer REU symposium 2021 (poster)

 Next: PhD program, Oregon State University

8/2019-8/2020 **Emma Fine** (B.S. Mathematics with honors, Utah 2020)

 Awards: UROP Spring 2020, Summer 2020

 Next: MS program, Paris-Saclay University (France)

3/2018-6/2020 **Paige Takasugi** (B.S. Biology with honors, Utah 2020)

Awards: UROP Fall 2018, Spring 2019, Goldwater Scholarship nominee, Undergraduate Research Scholar

Presentations: Undergraduate Research Symposium 2019 (poster)

 Published in Undergraduate Research Journal Vol. 20

Next: MD/PhD program, University of North Carolina

3/2018-7/2019 **Meredith Liddiard** (B.S. Biology, Utah 2020)

 Awards: UROP Fall 2018

 Presentations: Undergraduate Research Symposium 2019 (poster)

 Next: Lab technician, Shepherd lab, University of Utah

9/2018-12/2018 **Zachary Frederich** (B.S. Biology, BYU 2020)

Next: Research scientist, Octant Biosciences (Bay Area startup)

2/2018-12/2018 **Marissa Higbee**

Awards: Ryan Watts Research Fellowship Summer 2018

 Next: STEM Ambassador Program intern

**OTHER TRAINING**

8/2021-present **Andrew Janik** (research assistant, joint with Elde lab)

1/2022-6/2023 **Darren Llewellyn** (lab assistant)

 Next: PhD Program, University of Utah

6/2018-5/2023 **Nathan Baker** (animal technician)

3/2018-07/2020 **Evan Drage** (lab technician)

 Next: Technician, Naumann lab, Duke University

 Now: PhD Program, University of North Carolina

**DISSERTATION COMMITTEES**

2023-present Reilly Falter, Zhang lab, Oncological Sciences

2023-present Jackson Wilborn, Cairns lab, Oncological Sciences

2023-present Joseph Bednarek, Brown lab, Biology

2023-present Alexis Rousek, Mulvey lab, Biology

2023-present Markell Kolendrianos, Jorgensen lab, Biology

2022-present Hyrum Deisen, Adler lab, Biology (Chair)

2021-present Shelley Reich, Werner lab, Biology

2021-present Eva Vigato, Caron lab, Biology (Chair)

2021-present Samuel Linde, Caron lab, Biology

2021-present Sarah LaPotin, Kwan lab, Human Genetics2021-present Elnaz Mirzaei, Bhaskara group, Computing
2020-present Samuel West, Jorgensen lab, Biology

2020-present Kevin Sattler, Zelikowsky lab, Neurobiology & Anatomy

2020-present Sarah Lucas, Clark lab, Human Genetics

2020-present Julio Fierro, Roh-Johnson lab, Biochemistry

2019-present Makenna Johnson, Golic lab, Biology

2019-present Jasmine Phan, Babst lab, Biology

2019-present Katherine Piscopo, Hollien lab, Biology

2019-present Kewei Xu, Rog lab, Biology

2019-present Katherine Lemons, Golic lab, Biology (Chair)

2022-2023 Dwon Jordana, Clark lab, Human Genetics

2019-2023 Madison Schrock, Hughes lab, Biology (Chair)

2018-2023 Jessica Vincent, Sieburth lab, Biology

2018-2023 Alexis Fulbright, Evason lab, Oncological Sciences (PhD)

2019-2022 Tatsuya Hayashi, Caron lab, Biology (PhD)

2018-2022 Alexander Bradshaw, Dentinger lab, Biology (PhD)

2018-2020 Kyphuong Luong, Rose lab, Biology (PhD)

2018-2020 Rebecca Bruders, Shapiro lab, Biology (PhD)

2018-2020 Zoe Praggastis, Hollien lab, Biology (MS)

2018 Emerson Arehart, Adler lab, Biology (PhD)

**GRANT REVIEW PANELS**

2020 CMIR (NIH-CSR) – Early Career Reviewer

2020 Swiss National Science Foundation SPARK Grant Reviewer

2019 ERC STG Remote Reviewer

**JOURNAL REFEREESHIP**

2023 Nucleic Acids Research

Frontiers in Genome Editing

Cell Stem Cell

2022 Nature Biotechnology

Development

Nature Methods

2021 Briefings in Functional Genomics

 Human Genetics and Genomics Advances

2020 Disease Models & Mechanisms

Science

Cell Stem Cell

Development

 iScience

2019 Nature Protocols

 Nature Biotechnology

 Nature Neuroscience

 Development

Gene

2018 eLife

 Genes | Genomes | Genetics (G3)

 ACS Synthetic Biology

 Scientific Reports

2017 Nucleic Acids Research

2016 Development

 Developmental Biology

**INVITED OR SELECTED EXTERNAL SEMINARS (SINCE 2018)**

2024 Stowers Institute for Medical Research (MO)

 10th Strategic Conference of Zebrafish Investigators (CA)

2023 Department of Genome Sciences, University of Washington (WA)
Department of Molecular & Systems Biology, Dartmouth College (NH)
Utah Life Sciences Summit (UT)

Department of Molecular and Cellular Biology**,** University of California, Davis (CA)

Department of Cell & Developmental Biology, University of Pennsylvania (PA)

Department of Biology, Johns Hopkins University (MD)
National Institute of Child Health and Human Development, NIH (MD)
University of Illinois Urbana-Champaign (IL)

 Department of Biological Sciences - Lehigh University (PA)

 NWSDB Conference – Friday Harbor Laboratories (WA)

 Department of Biology – University of Massachusetts, Boston (MA)

2022 Neuroscience/Molecular Biology Grad Program – University of Nevada, Reno (NV)

Zebrafish Disease Models Society Hematology, virtual meeting

2020 Neural Development Gordon Research Conference (cancelled due to COVID) – Newport (RI)

Chan-Zuckerberg Initiative Inflammation Kickoff Meeting – Online meeting

2019 Department of Biological Sciences, University of Pittsburgh (PA)

Zebrafish for Precision/Personal Medicine conference – Toronto (ON)

Zebrafish Disease Models 12 conference – Boston (MA)

 Zebrafish Cancer Research Interest Group meeting – Boston (MA)

 High-Throughput Dense Reconstruction of Cell Lineages conference – Janelia Research Campus (VA)

2018 Triangle Zebrafish Symposium - Duke University (NC)

**INVITED SEMINARS AT THE UNIVERSITY OF UTAH (SINCE 2018)**

2023 Science at Breakfast, Natural History Museum of Utah (UT)

2022 Stem Cell Affinity Group – University of Utah (UT)

 Elde Lab Retreat – Alta (UT)

2021 SBS RPT Seminar – University of Utah (UT)

CCGS Faculty Seminar – University of Utah (UT)

MCEB Graduate Interview Weekend Symposium – University of Utah (UT)

2020 Genetics Interest Group – University of Utah (UT)

MCEB Graduate Interview Weekend Symposium – University of Utah (UT)

MB Graduate Interview Weekend Orientation – University of Utah (UT)

2019 Bioscience Symposium – University of Utah (UT)

MCEB Graduate Interview Weekend Symposium – University of Utah (UT)

Dept of Neurobiology & Anatomy – University of Utah (UT)

2018 College of Science Junior Faculty Luncheon – University of Utah (UT)

 School of Biological Sciences Retreat – University of Utah (UT)

 Zebrafish Interest Group – University of Utah (UT)

MCEB Graduate Interview Weekend Symposium – University of Utah (UT)

 Math/Bio Seminar Series – University of Utah (UT)

**PUBLICATIONS**

ORCID: <https://orcid.org/0000-0003-3978-6058>

Google Scholar: <https://scholar.google.com/citations?user=sVhtSVIAAAAJ&hl=en>

myBibliography: <https://www.ncbi.nlm.nih.gov/myncbi/james.gagnon.2/bibliography/public/>

Citations 6464

h-index 23

i10-index 30

i100-index 11

Manuscripts under consideration

1. Sposato AL, Llewellyn DR+, Weber JM, Hollins HL+, Schrock MN, Farrell JA, **Gagnon JA†**. Germ cells do not progress through spermatogenesis in the infertile zebrafish testis. Preprint available at bioRxiv: <https://www.biorxiv.org/content/10.1101/2023.09.05.556432v2>
2. Rice MC, Elde NC, **Gagnon JA**, Balla KM. Microbe transmission from pet shop to lab-reared zebrafish reveals a pathogenic birnavirus. Preprint available at bioRxiv: <https://doi.org/10.1101/2023.08.28.555169>
3. Carey CM, Hollins HL\*,+, Schmid AV\*, **Gagnon JA†**. Distinct features of the regenerating heart uncovered through comparative single-cell profiling. Preprint available at bioRxiv: <https://doi.org/10.1101/2023.07.04.547574>

Manuscripts containing work done in my lab at Utah

1. Rice MC, Little JH, Forrister DL, Machado J+, Clark NL, **Gagnon JA**†. Gadusol is a maternally provided sunscreen that protects fish embryos from DNA damage. *Current Biology* 2023 33:1-9
2. Su Y, Lin A, Teh L, Chevance F, James I, Mayfield C, Golic K, **Gagnon JA**, Rog O, Dale C. Rational engineering of a synthetic insect-bacterial mutualism. *Current Biology* 2022 32: 3925-3938.e6
3. Odstrcil I, Petkova M, Haesemeyer M, Boulanger-Wall J, Nikitchenko M, **Gagnon JA**, Oteiza P, Schalek R, Peleg A, Portuges R, Lichtman J, Engert F. Functional and ultra-structural analysis of reafferent mechanosensation in larval zebrafish. *Current Biology* 2022 32:176-189.e5
4. Takasugi PR\*,+, Wang S\*, Truong KT\*, Drage EP, Kanishka SN+, Higbee MA+, Bamidele N, Ojelabi O, Sontheimer EJ, **Gagnon JA**†. Orthogonal CRISPR-Cas tools for genome editing, inhibition, and CRISPR recording in zebrafish embryos. *Genetics* 2022220:iyab196.
5. Carey CM, **Gagnon JA**†. CRISPR Rube Goldberg machines for visualizing cell lineage. *Nature Neuroscience* 2020 23:1469–1471.
6. Balla KM, Rice MC, **Gagnon JA**, Elde NC. Linking virus discovery to immune responses visualized during zebrafish infections. *Current Biology* 2020 30:2092-2103.
7. McKenna A†, **Gagnon JA**†. Recording development with single cell dynamic lineage tracing. *Development* 2019 146:dev169730
8. Labun K, Guo X, Chavez A, Church G, **Gagnon JA**, Valen E. Accurate analysis of genuine CRISPR editing events with ampliCan. *Genome Research* 2019 gr.244293.118

Manuscripts that I contributed to as a postdoctoral fellow

1. Ma M, Ramirez AD, Wang T, Roberts RL, Harmon KE, Schoppik D, Sharma A, Kuang C, Goei SL, **Gagnon JA**, Zimmerman S, Tsai SQ, Reyon D, Joung JK, Aksay ERF, Schier AF, Pan YA. Zebrafish Dscaml1 is essential for retinal patterning and function of oculomotor subcircuits. *Journal of Neuroscience* 2020 40:143-158.
2. Wee CL, Nikitchenko M, Wang WC, Luks-Morgan SJ, Song E, **Gagnon** **JA**, Randlett O, Bianco IH, Lacoste AMB, Glushenkova E, Barrios JP, Schier AF, Kunes S, Engert F, Douglass AD. Zebrafish oxytocin neurons drive nocifensive behavior by activating brainstem premotor targets. *Nature Neuroscience* 2019 22:1477-1492.
3. Montague TM, **Gagnon JA**, Schier AF. Conserved regulation of Nodal-mediated left-right patterning in zebrafish and mouse. *Development* 2018 dev171090
4. Raj B, **Gagnon JA**, Schier AF. Large-scale reconstruction of cell lineages using single-cell readout of transcriptomes and CRISPR-Cas9 barcodes by scGESTALT. *Nature Protocols* 2018 13:2685-2713
5. Raj B, Wagner DW, McKenna A, Pandey S, Klein AM, Shendure J, **Gagnon JA**†, Schier AF†. Simultaneous single-cell profiling of lineages and cell types in the vertebrate brain. *Nature Biotechnology* 2018 36:442-450
6. **Gagnon JA**†, Obbad K+, Schier AF†. The primary role of zebrafish *nanog* is in extra-embryonic tissue. *Development* 2018 145:dev147793
7. **Gagnon JA**†**.** Pigmentation loss after injection of Cas9 or Cpf1 RNPs into zebrafish embryos. *Figshare* 2017 https://doi.org/10.6084/m9.figshare.5633452
8. Freifeld L, Odstrcil I, Förster D, Ramirez A, **Gagnon JA**, Randlett O, Costa EK, Asano S, Celiker OT, Gao R, Martin-Alarcon DA, Reginato P, Dick C, Chen L, Schoppik D, Engert F, Baier H, Boyden ES. Expansion microscopy of zebrafish for neuroscience and developmental biology studies. *PNAS* 2017 114:e10799-e10808
9. Rogers KW\*, Lord ND\*, **Gagnon JA**, Pauli A, Zimmerman S, Aksel DC, Reyon D, Tsai SQ, Joung JK, Schier AF. Nodal patterning without Lefty inhibitory feedback is functional but fragile. *eLife* 2017 6:e28785
10. Norris ML, Pauli A, **Gagnon JA**, Lord ND, Rogers KW, Mosimann C, Zon LI, Schier AF. Toddler signaling regulates mesodermal cell migration downstream of Nodal signaling. *eLife* 2017 6:e22626
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