







AMY GILL

My career goals are to advance personalized cancer therapy with data-driven systems biology and improve quantitative biology education resources. I currently seek a doctoral program to enhance my bioinformatics skills, practice teaching and perform patient-centered research.

EDUCATION

2016 2015	M.A.T., Secondary Education - Biology National-Louis University	 Chicago, IL
2015 2011	M.S., Cancer Biology University of Chicago	 Chicago, IL
2011 2007	B.A., Biological Sciences, Chemistry University of Chicago	 Chicago, IL




RESEARCH EXPERIENCE

2019 2017	Pathology Research Technician Dana-Farber Cancer Institute	 Boston, MA	<ul style="list-style-type: none">• Developed and analyzed custom mouse models of chronic lymphocytic leukemia (CLL) in the Wu laboratory.• Produced high-titer CRISPR-Cas9 lentivirus. Purified and transduced hematopoietic stem cells for transplant into immunodeficient mice.• Developed and executed flow cytometry protocols to classify B cell lineages, track CLL progression, enrich for HSCs, and distinguish donor and recipient cells via the CD45 system.
2017 2016	Research Technician University of Chicago	 Chicago, IL	<ul style="list-style-type: none">• Studied zebrafish development to investigate the homology between fish fins and tetrapod digits in the Shubin lab.• Performed summer and weekend (part-time) zebrafish husbandry and genotyping of CRISPR-generated Hoxa13a/Hoxa13b double mutant fish.
2014 2011	Graduate Research Assistant University of Chicago	 Chicago, IL	<ul style="list-style-type: none">• Investigated the role of Blimp1 (PRDM1) in radiogenic stress response to analyze its role in protection from radiogenic breast cancer in the Onel/Cunningham lab.• Demonstrated that Blimp1 primary transcript, mRNA and protein expression increase after IR exposure; designed Blimp1 shRNAs and inducible overexpression vectors and transduced cell lines.• Performed proteomic analysis of cytarabine chemotherapy response in lymphoblastoid cells using microwestern arrays (MWAs) in the Jones lab.



CONTACT

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SKILLS

 **Programming:** R, Bioconductor, Python, GitHub, HTML
 **Laboratory:** Cell culture, western blot, genotyping, qRT-PCR, primer design, flow cytometry, transfection, lentivirus production, mouse husbandry, zebrafish husbandry
 **Other:** Science teaching, science writing, data analysis, data visualization, statistics, machine learning, experimental design

CREDENTIALS

 [HarvardX Data Science Professional Certificate](#)
 Professional Educator License (IL): Secondary Biology, Secondary Chemistry

Made with the R package [pagedown](#).

The source code is available at github.com/gillsignals/cv.

See the full version of this CV with links at amygill.net/cv.

Last updated on 2019-11-12.

2011
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2007

Undergraduate Researcher

University of Chicago

📍 Chicago, IL

- Studied the cellular uptake of VO(acac)₃ to analyze its application as a contrast agent in PET scans in the Makinen lab. Demonstrated that VO(acac)₃ enters the cell via the reduced folate carrier (RFC) protein using Western blots and RFC inhibitors.
- Analyzed epigenetic differences in high-risk versus low-risk neuroblastoma cell lines and tumors with bisulfite sequencing in the Cohn lab.



TEACHING EXPERIENCE

2020
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2019

Lead Content Developer, Data Science Professional Program

HarvardX

📍 Cambridge, MA

- Maintain, revise and expand online content for the [Data Science Professional Certificate](#) and [Genomics Data Analysis](#) MOOC series from HarvardX on edX, including dozens of new coding exercises based on case studies.
- Added a variety of [new data sets](#) to the [dslabs package](#) for teaching data science in R, comprehensively edited the [Introduction to Data Science textbook](#), and am co-authoring the textbook solution guide.

2017
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2016

Science Lab Coordinator

Adlai E. Stevenson High School

📍 Lincolnshire, IL

- Prepared laboratory chemicals and materials, tested and improved protocols, and maintained laboratory equipment for 49 high school science teachers with 4000+ students.
- Updated labs to incorporate modern scientific techniques, probeware, and inquiry-based principles into the high school curriculum.
- Tutored homebound students for biology, chemistry, and anatomy/physiology and offered private science tutoring.

2014
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2009

Teaching Assistant

University of Chicago

📍 Chicago, IL

- Assisted with numerous undergraduate and 1st year PhD graduate courses.
- Prepared and taught weekly review sessions and exam preparation sessions, helped write exams, graded assignments and exams, fielded student questions, held office hours, and tutored students 1:1.
- Courses: Endocrinology/Cell Signaling (4x), Biological Systems, Protein Fundamentals, and Cancer Biology Grant Writing

PEER-REVIEWED PUBLICATIONS

[Splicing modulation sensitizes chronic lymphocytic leukemia cells to venetoclax by remodeling mitochondrial apoptotic dependencies](#). Ten Hacken E et al. (2018), JCI Insight 3(19).

[Identification of Novel Protein Expression Changes Following Cisplatin Treatment and Application to Combination Therapy](#). Stark AL et al (2017). Journal of Proteome Research, 16(11): 4227-4236.

[Truncated DNMT3B isoform DNMT3B7 suppresses growth, induces differentiation, and alters DNA methylation in human neuroblastoma](#). Ostler KR et al (2012). Cancer Research 72(18): 4714-23.

POSTERS AND PRESENTATIONS

[The role of PRDM1 in protection against radiogenic breast cancer](#). Oral presentation, Dept. Pediatric Hem/Onc, UChicago (2014).

[The role of Blimp1 in protection against ionizing radiation in breast cells](#). Poster, Biomedical Sciences Retreat, UChicago (2014).

[Systems analysis of cytarabine response and resistance in hematopoietic cells](#). Poster, Biomedical Sciences Retreat, UChicago (2013).