Joshua Cook

Ph.D. student in bioinformatics and cancer genetics
Harvard Medical School

josh.hr.cook@gmail.com
(818) 437-7904
joshuacook.netlify.app
github.com/jhrcook
ORCID: 0000-0001-9815-6879

Education

Aug. 2017 - Sept. 2022 (expected graduation date)	Biological and Biomedical Sciences, Ph. D. Harvard Medical School
Aug. 2013 - June 2017	Biochemistry and Molecular Biology, B.S. Chemistry, B.S. University of California, Irvine

Publications

Cook, Joshua H., Giorgio E. M. Melloni, Doga C. Gulhan, Peter J. Park, and Kevin M. Haigis. 2021. "The origins and genetic interactions of *KRAS* mutations are allele- and tissue-specific." *Nature Communications* 12 (1): 1–14. (PMID: 33753749)

Emily J. Poulin, Asim K. Bera, Jia Lu, Yi-Jang Lin, Samantha Dale Strasser, Joao A. Paulo, Tannie Q. Huang, Carolina Morales, Wei Yan, **Joshua H. Cook**, Jonathan A. Nowak, Douglas K. Brubaker, Brian A. Joughin, Christian W. Johnson, Rebecca A. DeStefanis, Phaedra C. Ghazi, Sudershan Gondi, Thomas E. Wales, Roxana E. Iacob, Lana Bogdanova, Jessica J. Gierut, Yina Li, John R. Engen, Pedro A. Perez-Mancera, Benjamin S. Braun, Steven P. Gygi, Douglas A. Lauffenburger, Kenneth D. Westover, Kevin M. Haigis. 2019. "Tissue-specific oncogenic activity of $KRAS^{A146T}$." *Cancer Discovery* 9 (6): 738–55. (PMID: 30952657)

Cook, Joshua H., Norikiyo Ueno, and Melissa B. Lodoen. 2018. "*Toxoplasma gondii* disrupts β1 integrin signaling and focal adhesion formation during monocyte hypermotility." *The Journal of Biological Chemistry* 293 (9): 3374–85. (PMID: 29295815)

Maillard, Julien, Soyoung Park, Sophie Croizier, Charlotte Vanacker, **Joshua H. Cook**, Vincent Prevot, Maithe Tauber, and Sebastien G. Bouret. 2016. "Loss of Magel2 impairs the development of hypothalamic anorexigenic circuits." *Human Molecular Genetics* 25 (15): 3208–15. (PMID: 27288456)

Technical Skills

Languages	**Python, R**, Swift, Bash
Data Science	Python: pandas, NumPy, matplotlib, Jupyter, Snakemake R: the tidyverse ecosystem
Statistical modeling	Python: **PyMC**, Stan, scikit-learn, SciPy, Tensorflow R: rstanarm, lmer, tidymodels
Application Dev.	iOS, macOS, watchOS Apple platforms
Web Applications	FastAPI, Streamlit, Heroku

Teaching Experience

Private Tutoring

Sept. 2018 - June 2021, Cambridge, MA

- Tutored a high school student every evening in a variety of academic topics
- Forged a deeper relationship with him to become a close mentor
- Ensured that assignments were completed and submitted on time

Teaching Assistant, BMI 713 *Computing Skills for Biomedical Sciences*

Aug. - Nov. 2019, Department of Biomedical Informatics, Harvard Medical School, Boston, MA

- Facilitated instruction during lectures and helped students during periods of interactive group work
- Instituted weekly office hours and occasional 1-on-1 tutoring sessions
- Created and graded problem sets

Peer Tutor

Aug. 2015 - Sept. 2016, University of California Irvine (UCI) Learning and Academic Resource Center

- Organized and led group tutoring sessions for undergraduate students
- Tutored for courses in introductory biology, biochemistry, molecular biology, and calculus

Leadership and Mentoring

Irvine Little League Manager

Feb. 2016 - June 2017, Irvine Ranch Little League Baseball

- Co-managed a Majors division (11-12 year-olds) baseball team; co-managed the 11 year-old's All Star Team over the summer
- Managed my own team in the AA division (8-10 year-olds); season champions and won the Irvine City Championship Tournament
- Attended league meetings, organized parent volunteers, and scheduled practices and games

Tutor Advisor

Mar. 2016 - June 2017, UCI Learning and Academic Resource Center

- Managed and trained tutors
- Regularly met with tutors to make sure they were managing their course load and job in an efficient and healthy manner
- Advocated on behalf of the tutors to the program and school administrators
- Scheduled tutorials and handled day-to-day problems

Peer Mentor, UCI Campuswide Honors Program

Aug. 2016 - June 2017, UCI Campuswide Honors Program

- Mentored four incoming UC Irvine freshman
- Guided them to available resources, answered questions they had about classes, and supported them through the stress of beginning their undergraduate studies

Peer Scholars Mentor

Sept. 2016 - June 2017, Scholarship and Opportunities Program

- Supervised three UCI students applying for the Barry Goldwater Scholarship
- Facilitated their application process by providing frequent feedback on personal statements and other essays

Honors and Awards

Apr. 2019	NSF Graduate Research Fellowship Program Honorable Mention
June 2017	Honors in Biological Sciences
May 2017	Phi Lambda Upsilon A national chemistry honorary society into which a few select graduating chemistry students are invited.
May 2017	American Chemical Society Polymer Education Award
May 2017	Jayne Unzelman Scholarship ($3,000) Undergraduate student, academic excellence and service to the School of Biological Sciences and/or the University, and service to the community.
May 2017	UC Irvine Chancellor's Award of Distinction
May 2017	Phi Beta Kappa
Mar. 2017	Fulbright Fellowship Alternate
Jan. 2017	Undergraduate Research Opportunities Program (UROP) Fellow and Grant Recipient ($400)
Oct. 2016	Malcolm R. Stacey Memorial Scholarship ($500) Awarded to meritorious students of Jewish descent with financial need.
June 2016	UCI Alumni Association 2016-17 Distinguished Anteaters Award ($1,500)

June 2016	Summer Undergraduate Research Program ($1,300)
May 2016	UCI School of Bio Sci Brian Atwood Scholarship ($3,000) Awarded to a Junior-level Biological Sciences major who has demonstrated outstanding achievement in both scholarship and service to the UCI community.
May 2016	Robert Ernst Prize for Excellence in Research in the Biological Sciences ($250)
Apr. 2016	Excellence in Research A UCI School of Biological Sciences undergraduate competition whereby each student submits a manuscript of their research project, gives an oral presentation, and holds a poster session.
Mar. 2016	Barry Goldwater Scholar ($7,500)
Jan. 2016	UROP Fellow and Grant Recipient ($500)
June 2015	UROP Honorary Fellowship
Jan. 2015	UROP Fellow and Grant Recipient ($500)
2017 - 2014	UCI Dean's Honor List (all 12 academic quarters)
2017 - 2014	UCI Campuswide Honors Program

Presentations

May 2022	Modeling effects of $Kras^{G12D}$ on cell proliferation in ten tissues in mice. Cancer Research UK Trainee Meeting (oral)
Sept 2021	Modeling CRISPR-Cas9 screens to identify tissue-specific patterns. Cancer Research UK Trainee Meeting (oral)
May 2021	Tissue- and allele-specific genetic interactions of *KRAS*. Harvard Medical School Cancer Signaling Meeting (oral)
Mar 2020	The genetic interaction network of mutationally activated *KRAS*. Brigham and Women's Hospital, Genetics Research in Progress (oral)
Oct 2019	Genetic description of oncogenic KRAS mutations. Cancer Research UK Progress Meeting (oral)
May 2016	*Toxoplasma gondii*-induced hypermotility in human primary monocytes through the dysregulation of β1 integrins. UCI Undergraduate Research Opportunities Program Symposium (poster)
Apr 2016	*Toxoplasma gondii*-induced hypermotility in human primary monocytes through the dysregulation of β1 integrins. UCI Bio Sci Excellence in Research (poster)

Apr 2016 — *Toxoplasma gondii*-induced hypermotility in human primary monocytes through the dysregulation of β1 integrins.
UCI Bio Sci Excellence in Research (oral)

Apr 2016 — Hypermotility of human primary monocytes through the dysregulation of β1 integrins by *Toxoplasma gondii*.
West Coast Biological Sciences Undergraduate Research Conference (oral)

May 2015 — Destabilization of cell adhesion in human monocytes infected with *Toxoplasma gondii*.
UCI Undergraduate Research Opportunities Program Symposium (oral)

References

Kevin M. Haigis
kevin_haigis@dfci.harvard.edu
Chief Scientific Officer, Dana-Farber Cancer Institute
Professor of Medicine, Harvard Medical School

Peter J. Park
peter_park@hms.harvard.edu
Professor of Biomedical Informatics, Harvard Medical School