

MICAH OLIVAS

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EDUCATION

California State University, Fresno

Fresno, CA

B.S. in Biochemistry (Honors) | Major GPA: 3.94/4.0

Expected May 2020

- Barry Goldwater Scholar
- Marshall Scholarship Finalist
- Honors Thesis: Oxidative stress dynamics in the alveolar macrophage

Relevant Coursework: Cancer Biology, Molecular Biology, Protein Biochemistry, Microbiology, Cell Biology, Metabolism, Statistical and Biostatistical Modeling

Oxford University, Oxford, England

September 2019 - December 2019

Study abroad coursework in Stem Cell Biology (1st) and Quantum Chemistry (II.i)

TECHNICAL SKILLS

Laboratory: Sterile cell culture; confocal microscopy; **multicolor flow cytometry**; immunoblotting; ELISA; DNA/RNA/protein purification and analysis; **PCR** and **qPCR**; lentiviral engineering; CRISPR/RNAi/siRNA screen development; spectrophotometry

Technology: R Studio, NCBI BLAST, SnapGene, GraphPad Prism, Flowjo, ImageJ, Pymol, Python, LaTeX (MacTex), Adobe Suite, Microsoft Office Suite

RESEARCH EXPERIENCE

Stanford University Department of Genetics

Stanford, CA

Summer Undergraduate Research Fellow (AMGEN Scholar)

January 2019 – August 2019

Project: Genome-wide CRISPR knockout screen in lung cancer spheroids

- Characterized synthetic lethality in genome-wide functional study of KRAS-mutant tumor spheroids

Duke University Department of Pharmacology and Cancer Biology

Durham, NC

Summer Undergraduate Research Fellow

May 2018 – July 2018

Project: Development of Inducible CRISPR/Cas9 screening systems

- Optimizing ERT2-Cas9 fusion (KI Liu et al.) function in human dormant mammary adenocarcinoma

California State University, Fresno Department of Chemistry

Fresno, CA

Undergraduate Honors Researcher

August 2016 – April 2019

Project: Reactive oxygen species production in alveolar macrophages

- Developed high throughput, multichannel flow cytometry pipeline to categorize intracellular ROS production by subcellular location

PEER-REVIEWED ARTICLES

1. Han, K., Pierce, S., Li, A., Spees, K., Anderson, G.R., Seoane, J.A., Wainberg, M., Kostyrko, K., Kelly, M.R., Yousefi, M., Simpkins, S.W., Yao, D., Lee, K., Kuo, C.J., Shokat, K.M., Jackson, P.K., Sweet-Cordero, A., Kundaje, A., Gentles, A.J., Curtis, C., Winslow, M.M., Lo, Y., Dubreuil, M., Olivas, M., Kamber, R., Bassik, M.C. *Genome-wide CRISPR screens in lung cancer spheroids identify 3D growth specific cancer vulnerabilities.* (In press, **Nature**).
2. Waterston, A., Castillo, J., Olivas, M., Hasson, A., & Dejean, L. *PM2.5 Exposure and ROS Production in NR8383 Rat Alveolar Macrophages.* **Biophysical Journal** 114, 334a (2018). DOI: <https://doi.org/10.1016/j.bpj.2017.11.1872>

PROFESSIONAL SERVICE

California Air Resources Board

Community Steering Committee Member (Volunteer 10 hr/wk), November 2018 - Present

- Organized and implemented Assembly Bill 617 in South Fresno, providing protections for residents of critical non-attainment areas throughout the region
- Reported directly to the California Air Resources Board (CARB) during regular meetings at the California Environmental Protection Agency (CalEPA) building in Sacramento

Camp Kesem at Fresno State

Public Relations Coordinator (Volunteer 20 hr/wk), August 2017 - Present

- Coordinated weekly communication and a weeklong summer camp for more than 80 local children whose parents or guardians have been affected by cancer

FLOCC Comedy Improv Troupe at Fresno State

Performing Member (Volunteer 15 hr/wk), August 2017 - Present

- One of 10-15 members on A* performance team
- Raised nearly \$7,000 for local charities during monthly shows in and around Fresno, CA

REFERENCES

Dr. Michael Bassik

Assistant Professor of Genetics

Stanford University

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Dr. Laurent Dejean

Assistant Professor of Biochemistry

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Dr. James Alvarez

Professor of Pharmacology and Cancer Biology

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