

Matthew Steinsaltz

GRADUATE RESEARCH SCIENTIST & YALE PHD CANDIDATE · ALTOS LABS

Altos Labs, 10945 N Torrey Pines Rd, La Jolla, CA 92037

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Education

Yale University

PHD MOLECULAR BIOPHYSICS & BIOCHEMISTRY

- Advisor: Dr. Zachary A. Levine

New Haven, CT

2020 - present

SUNY Geneseo

BS BIOCHEMISTRY

- Minor Mathematics
- Undergrad research advisors: Dr. Amber F. Charlebois & Dr. Robert W. O'Donnell

Geneseo, NY

2014 - 2018

Research Experience

Altos Labs - San Diego Institute

ADVISOR: DR. ZACHARY A. LEVINE

- Thesis: "Structural and Functional Studies of p53 Aggregation"

San Diego, CA

August. 1st - Present

Yale University - Dept of Molecular Biophysics & Biochemistry

ADVISOR: DR. ANDREW D. MIRANKER

- Thesis: "Structural and Functional Studies of p53 Aggregation"

New Haven, CT

April. 2021 - Present

National Cancer Institute - Laboratory of Cancer Biology & Genetics

ADVISOR: DR. BEVERLY MOCK

- Project: "Characterization of unique mTOR Complexes from Wild Type vs Mutant mTOR alleles"

Bethesda, MD

2018 - 2020

SUNY Geneseo - Dept of Biology

ADVISORS: DR. ROBERT W. O'DONELL

- Project: "Measuring the Combinatorial effect of small molecules on the expression of MPC-1"

Geneseo, NY

2017-2018

SUNY Geneseo - Dept of Chemistry

ADVISOR: DR. AMBER F. CHARLEBOIS

- Project: "Modern techniques in biochemistry education: Analyzing protein folding with HPLC"

Geneseo, NY

2015 - 2018

Duquesne University - Dept of Computational Chemistry

ADVISOR: DR. JEFFRY MADURA

- Project: "Molecular dynamics modeling of FMRP RGG Box interactions with RNA G-quadruplex binding domains"

Pittsburgh, PA

Summer 2016

Scientific Publications

Peer-Reviewed

Zhang, S; Shi, W; Ramsay, E. R; Bliskovsky, R; Eiden, A. M; Connors, D; **Steinsaltz, M**; DuBois, W; and Mock B. A; 2019. "The transcription factor MZF1 differentially regulates murine Mtor promoter variants linked to tumor susceptibility. *Journal of Biological Chemistry*, 294(45):16756-16764

Preprints In Review

Steinsaltz, M; Gomes, G. N; and Levine, Z. A. "Consensus DNA Inhibits p53 Aggregation but Fails to Rescue Mutants"; 2025. *bioRxiv* 2025.07.24.665437

In Prep

Nguyen, J. T; Matera-Vatnick, M; Moore, C; Holzer, G; Dressler, L; Israel, U; Hughitt, K; Yan, H; **Steinsaltz, M**; Caballero, E; Guin, R; Gliford, L; Labrador, L; Wang, Y; Yue, Y; Valen, D. V; Huang, J; Chari, R, Mays, J. W; and Mock B. A. *CRISPR/Cas9 guided multiomics defines a direct inhibitory role for mTOR complex 3 (mTORC3) in Hippo/YAP/TAZ signaling.*

Sci-Comm Publications

Steinsaltz, M; 2025. "Why federal research funding matters". *The Riverdale Press*. (Op-Ed, published as part of the McClintock Letters)

Conference Presentations

Steinsaltz, M; Levine Z. A. 2025. Decoupling the role of DNA on mutant p53 aggregation. Flash Talk and Poster, Biophysical Society 69th Annual Meeting, Los Angeles, CA.

Steinsaltz, M; Levine Z. A. 2023. Assessing p53 aggregates over a lifetime: Studies on Young, Adult, and Aged Mice. Poster, Biophysical Society 67th Annual Meeting, San Diego, CA.

Steinsaltz, M; Pertl, A; Levine Z. A. 2022. Spectroscopic Observations of p53 DNA-Binding Domain Aggregation. Flash Talk & Poster, Picoquant's 27th International Workshop on "Single Molecule Spectroscopy and Super-resolution Microscopy"

Steinsaltz, M; Pertl, A; Levine Z. A. 2022. Pathological p53 Oligomers Grow at Different Rates Compared to WT Counterparts. Poster, Yale Biophysics and Structural Biology Symposium

Nguyen, J. T; Matera-Vatnick, M; Moore, C; Holzer, G; Dressler, L; Israel, U; Hughitt, K; Yan, H; **Steinsaltz, M**; Caballero, E; Guin, R; Gliford, L; Labrador, L; Wang, Y; Yue, Y; Valen, D. V; Huang, J; Chari, R, Mays, J. W; and Mock B. A. 2022. CRISPR/Cas9 guided multiomics defines a direct inhibitory role for mTOR complex 3 (mTORC3) in Hippo/YAP/TAZ signaling. Oral presentation: 22nd Annual CCR Fellows and Young Investigators Colloquium, Bethesda, MD.

Steinsaltz, M; Levine Z. A. 2022. Fluorescence Correlation Spectroscopy as a Tool to Distinguish Soluble p53 Aggregates. Platform speaker, Biophysical Society 66th Annual Meeting, San Francisco, CA.

Steinsaltz, M, Nguyen, J. T; Moore, C; Caballero, E; Mock B. A. 2020. Characterization of unique mTOR Complexes from Wild Type vs Mutant mTOR alleles. Oral Presentation: 20th Annual CCR Fellows and Young Investigators Colloquium, Bethesda, MD.

Duran, D; **Steinsaltz, M**; Anstett, M; Custance, M; O'Donnell, R. 2018. Reprogramming Cancer Cell Metabolism Through the Combinatorial Action of Pk11195 and 5-Azacytidine. Poster: American Society for Biochemistry and Molecular Biology, San Diego, CA.

Duran, D; **Steinsaltz, M**; Anstett, M; Custance, M; O'Donnell, R. 2018. Reprogramming Cancer Cell Metabolism Through the Combinatorial Action of Pk11195 and 5-Azacytidine. Poster: GREAT Day (Geneseo Recognizing Excellence, Achievement & Talent Day), Geneseo, NY.

Steinsaltz, M; Charlebois, A. F. 2018. Analysis of Protein Folding Structure using LCMS: ACS Rochester Section Local Undergraduate Poster Symposium, Rochester, NY.

Steinsaltz, M; Charlebois, A. F. 2017. Analysis of Protein Folding Structure using LCMS. Platform Speaker: American Chemical Society, Washington, DC.

Steinsaltz, M; Charlebois, A. F. 2017. Analysis of Protein Folding Structure using LCMS. Oral Presentation: GREAT Day (Geneseo Recognizing Excellence, Achievement & Talent Day), Geneseo, NY.

Steinsaltz, M; Carpenter, R; Charlebois, A. F. 2016. Analysis of Native and Reduced Protein Structures Using HPLC. Poster: American Chemical Society, Philadelphia, PA.

Steinsaltz, M; Madura, J, D;. 2016. Modeling RGG Box Interactions with RNA G-quadruplex Binding Domains. Poster: Duquesne University REU Symposium, Pittsburgh, PA.

Awards & Grants

Chemical Biology Interface NIH Training Grant

YALE UNIVERSITY

2020 – 2022

- Provided full tuition and stipend for two years of graduate study.
- Included an additional \$1,700 for research resources and conference travel.

Physical & Engineering Biology Travel Award

YALE UNIVERSITY

2020 – 2022

- Awarded \$1,700 to support travel to a national conference.

Student Award in Biochemistry

AMERICAN INSTITUTE OF CHEMISTS

2018

Phi Beta Kappa Membership

PHI BETA KAPPA NATIONAL HONORS SOCIETY

2018

Tri-Beta Biology Membership

TRI-BETA NATIONAL BIOLOGICAL HONOR SOCIETY

2018

Undergraduate Research & Travel Funding

GENESEO FOUNDATION

2015 – 2017

- Received multiple grants for research and travel, including the Undergraduate Research Award (\$1,800), Undergraduate Travel Award (\$1,800), and the Lipkowitz-Rhodes Summer Research Grant (\$2,500).

Phi Eta Sigma Membership

PHI ETA SIGMA NATIONAL HONOR SOCIETY

2014

Teaching Experience

Teaching Assistant

PRINCIPLES OF BIOCHEMISTRY II

Yale University

Spring 2021

Supplemental Instructor

ORGANIC CHEMISTRY II

SUNY Geneseo

Spring 2018

Supplemental Instructor

ORGANIC CHEMISTRY I

SUNY Geneseo

Fall 2017

Mentoring & Supervision

Anna Pertl

UNDERGRADUATE RESEARCHER

Yale University

2021 – 2022

Enya Caballero

NCI HIGH SCHOOL RESEARCH PROGRAM

National Cancer Institute

2017 – 2018

Professional Development

Howard Garrison Advocacy Fellow

FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY (FASEB)

Rockville, MD. (Remote)

September 2025 – Present

- Selected for a competitive, 10-month fellowship to develop expertise in science policy, advocacy, and direct engagement with federal legislators. My work is featured in my FASEB Fellow Profile.

Engaging with Science Policy Through Traditional and New Media Course

SCIENCE CAREERS AND OPPORTUNITIES IN POLICY AND EDUCATION (SCOPE)

Remote

Summer 2025

- Completed a 10-week science communication course for early-career scientists, culminating in a publicly available final project on engaging in public discourse.

Science Policy Skills Training Course

Remote

NATIONAL SCIENCE POLICY NETWORK (NSPN)

Fall 2024

- Completed an 8-week training program to acquire skills in policy analysis and communication, building a comprehensive portfolio through practical exercises and expert mentorship.
- Co-authored the winning proposal in the program's internal policy pitch competition.

Science Policy Writing Course

Remote

NATIONAL SCIENCE POLICY NETWORK (NSPN)

Fall 2024

- Completed a 6-week course focused on honing key writing skills for effectively engaging with policymakers and the public, producing a portfolio of policy memos and op-eds.

Physics, Engineering, and Biology (PEB) Graduate Program

New Haven, CT

YALE UNIVERSITY

2020 – Present

- Completed a graduate certificate in an interdisciplinary program focused on strengthening quantitative skills and fostering collaboration between PhD candidates.

Annual Meeting Attendee

Philadelphia, PA

AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY (ASBMB)

April 2022

- Engaged in workshops, career development sessions, and networking opportunities with leading experts in the fields of biochemistry and molecular biology.

Skills

PROFESSIONAL Project management | Research design | Data analysis | Cross-institutional collaboration | Scientific & public communication | Problem solving | Leadership | Mentoring | Self-driven

COMPUTATIONAL Python (developed complex data analysis scripts), MATLAB (basic) and R Studio (basic) | Analysis of large data sets-generated and publicly accessible.

CELL & MOLECULAR BIOLOGY Mammalian tissue culture (primary and immortalized lines) | transient transfection | plasmid preparation (amplification, isolation, purification)

BIOCHEMISTRY & PROTEIN METHODS Protein purification (bacterial, mammalian cell, and tissue) | FPLC | protein-immunoprecipitation | SDS-PAGE | Native PAGE | Western blotting | dot blotting | EMSA | sucrose density ultracentrifugation | Thioflavin-T assays

MICROSCOPY & BIOPHYSICS Fluorescence microscopy | light microscopy | transmission electron microscopy (negative stain) | fluorescence correlation spectroscopy (FCS) | UV/Vis spectrophotometry

SOFTWARE *Scientific:* Prism | Benchling ELN | PyMol | Fiji | SnapGene • *Design:* BioRender | Canva | Adobe (Illustrator, Photoshop) • *AI Tools:* LLMs (ChatGPT, Claude, Gemini), GitHub Copilot for code development, Consensus for literature review • *General:* \LaTeX | Office Suite | GitHub | Reference managers Mendeley and Zotero

NON-EXPERT LAB-EXPERIENCE Standard mouse handling procedures and primary cell isolation | Molecular cloning | PCR & Real-time quantitative PCR | nucleic acid aptamer development | reverse phase HPLC | mass spectrometry

Volunteering & Outreach

San Diego 350 - Plant Forward Team

MEMBER

San Diego

June 2025 – Present

Letters To a Pre-Scientist (LPS)

TRAINED PEN-PAL

Remote

September 2025 – Present

Yale Science in The News

SPEAKER & WRITER

Yale University

Sept. 2025 – Present; 2021 – 2022