

BLAINE S.C. ELDRED

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SUMMARY OF QUALIFICATIONS

Blaine Eldred aspires to be an MD/PhD, physician-scientist, and tenured professor, specializing in neuro-oncology and translational research. Blaine exemplifies leadership, resilience, integrity, and creativity. After graduating from UCLA in 2019 with highest honors in Neuroscience and a minor in Biomedical Research, Blaine was hired as Dr. Albert Lai's laboratory manager at UCLA's David Geffen School of Medicine. He is still currently engaged in this role. Blaine has 2 co-first author publications and an additional 8 co-author publications, all in the field of neuro-oncology. Blaine also produced an award-winning poster presentation in 2019. Blaine has over 500 hours of clinical volunteer experience and over 6,500 hours of research experience.

EDUCATION

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| Bachelor of Science (Cum Laude), <i>University of California, Los Angeles, CA</i> | Dec 2019 |
| Major in Neuroscience, Highest Departmental Honors | |
| Minor in Biomedical Research | |
| IGETC, <i>Santa Barbara City College ('SBCC'), CA</i> | Jun 2017 |
| High School Diploma, <i>Casa Grande High School, Petaluma, CA</i> | Jun 2013 |

VOLUNTEER EXPERIENCE

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| Student Researcher, <i>Dr. Albert Lai's Lab, UCLA</i> | Sep 2018 – Dec 2019 |
| Clinical Volunteer, <i>Care Extender Program, UCLA Health</i> | Nov 2017 – Jul 2019 |
| Completed 7 departmental rotations spanning orthopedics, radiology, emergency medicine, pediatrics, cardio catheter lab, and MICU. Provided assistance to the clinical team and acted as a patient advocate. | |
| Emergency Department Volunteer, <i>Petaluma Valley Hospital</i> | Sep 2012 - Jul 2013 |
| Rotary Club, <i>District 5130, Petaluma, CA</i> | Aug 2012 - Jul 2013 |
| National Park Volunteer, <i>Alcatraz Island and Yosemite National Park</i> | Jan 2009 - Jul 2013 |
| Astronomy Docent, <i>Robert Ferguson Observatory</i> | Aug 2007 - Jul 2013 |
| Ornithology Volunteer, <i>Point Reyes Bird Observatory</i> | Jan 2007 - Jul 2013 |

WORK EXPERIENCE

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| Laboratory Assistant II / Laboratory Manager, <i>Lai Lab, UCLA</i> | Dec 2019 - Present |
| Overseen day-to-day operations, managed budgets and regulatory protocols, and coordinated with collaborators. Led and contributing to several neuro-oncology research projects, resulting in ten publications. Guided undergraduate research volunteers through their first research experiences, teaching laboratory techniques, experimental design, and data analysis. | |
| Chemistry Tutor, <i>Santa Barbara City College</i> | Aug 2015 - May 2017 |
| Animal Biology Tutor, <i>Santa Barbara City College</i> | Aug 2015 - May 2017 |
| Recreational Equipment Inc. Employee, <i>REI Santa Barbara</i> | Apr 2014 - Aug 2014 |

PUBLICATIONS & CONTRIBUTIONS

1. Ji MS*, **Eldred BSC***, Liu R, Pianka ST, Molaie D, Kevan B, Pan S, Lai TJ, Nguyen NT, Chow FE, Yong WH, Cox CD, Reeh DN, Li T, Liao LM, Nghiemphu PL, Cloughesy TF, Li G, Lai A. Targeted next-generation sequencing of 565 neuro-oncology patients at UCLA: A single-institution experience. *Neuro-Oncology Advances*. 2020 Jan 29. PMID: 32118206 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7034640/>
Co-first author. Curated the patient cohort, collected clinical and molecular data from patient records, ran multivariate statistical analysis, created all Kaplan-Meier curves, wrote large portions of the manuscript, and contributed significantly to the interpretation of results, editing, and review of the manuscript.
2. Lam K*, **Eldred BSC***, Kevan B, Pianka S, Eldred BA, Zapanta Rinonos S, Yong WH, Liao LM, Nghiemphu PL, Cloughesy TF, Green RM, Lai A. Prognostic value of O6-methylguanine-DNA methyltransferase methylation in isocitrate dehydrogenase mutant gliomas. *Neuro-Oncology Advances*. 2022 Mar 1. PMID: 35386566 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8982195/>
Co-first author. Curated the patient cohort, collected clinical and molecular data for all UCLA patients included in this study, created all Kaplan-Meier curves, performed all statistical analyses, wrote large portions of the manuscript, and contributed significantly to the interpretation of results, editing, and review of the manuscript.
3. Pianka ST*, Li T*, Prins TJ, **Eldred BSC**, Kevan BM, Liang H, Zapanta Rinonos S, Kornblum HI, Nathanson DA, Pellegrini M, Liao LM, Nghiemphu PL, Cloughesy TF, Lai A. D-2-HG Inhibits IDH1mut Glioma Growth via FTO Inhibition and Resultant m6A Hypermethylation. *Cancer Research Communications*. 2024 Mar 22. PMID: 38445960 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10959073/>
Third author. Created graphs and figures, verified the accuracy of data and analyses, ran statistical analysis, duplicated experiments, participated in all aspects of in vivo experiments (including establishing intracranial orthotopic xenografts, treatment, monitoring, data collection, tissue harvesting, and analysis), contributed significantly to the interpretation of results, writing, editing, and review of the manuscript.
4. Zapanta Rinonos S*, Li T*, Pianka ST*, Prins TJ, **Eldred BSC**, Kevan BM, Liao LM, Nghiemphu PL, Cloughesy TF, Lai A. dCas9/CRISPR-based methylation of O-6-methylguanine-DNA methyltransferase enhances chemosensitivity to temozolomide in malignant glioma. *Journal of Neuro-Oncology*. 2024 Jan 15. PMID: 38224404 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10824881/>
Third author. Generated and managed cell cultures, performed assays and experiments, made protocol improvements, ran statistical analysis, and contributed to the interpretation of results, writing, editing, and review of the manuscript.
5. Wetzel EA, Farrell MJ, **Eldred BSC**, Liu V, Saha I, Zapanta Rinonos S, Prins T, Li T, Cao M, Hegde J, Kaprelian T, Khanlou N, Liao LM, Nghiemphu PL, Cloughesy TF, Chong RA, Ellingson BM, Lai A. Retrospective examination of pseudoprogression in IDH mutant gliomas. *Neuro-Oncology Advances*. 2023 Mar 18. PMID: 37128507 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10148681/>
Third author. Trained the undergraduates in all aspects of this study including data collection and analysis, assisted in data collection, verified the accuracy of data and analyses, contributed to the interpretation of results, contributed to writing, editing, and review of the manuscript.
6. Liu V*, Wetzel EA*, **Eldred BSC**, Zapanta Rinonos S, Prins TJ, Khanlou N, Liao LM, Chong R, Nghiemphu PL, Cloughesy TF, Ellingson BM, Lai A. A single-institution retrospective analysis of pathologically determined malignant transformation in IDH mutant glioma patients. *Neuro-Oncology Advances*. 2023 Apr 11. PMID: 37152809 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10162112/>
Second author. Trained the undergraduates in all aspects of this study including data collection and analysis, assisted in data collection, verified the accuracy of data and analyses, contributed to the interpretation of results, contributed to writing, editing, and review of the manuscript.

7. Burdett KB*, Unruh D*, Drumm M, Steffens A, Lamano J, Judkins J, Schwartz M, Javier R, Amidei C, Lipp ES, Peters KB, Lai A, **Eldred BSC**, Heimberger AB, McCortney K, Scholtens DM, Horbinski C. Determining venous thromboembolism risk in patients with adult-type diffuse glioma. *Blood*. 2023 Mar 16. PMID: 36399711 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10082363/>
Co-author. Collected clinical and molecular data for all UCLA patients and contributed to the review.

8. Goldman J, Hagiwara A, Yao J, Raymond C, Ong C, Bakhti R, Kwon E, Farhat M, Torres C, Erickson LG, Curl BJ, Lee M, Pope WB, Salamon N, Nghiemphu PL, Ji M, **Eldred BSC**, Liau LM, Lai A, Cloughesy TF, Chung C, Ellingson BM. Paradoxical Association Between Relative Cerebral Blood Volume Dynamics Following Chemoradiation and Increased Progression-Free Survival in Newly Diagnosed IDH Wild-Type MGMT Promoter Methylated Glioblastoma With Measurable Disease. *Frontiers in Oncology*. 2022 Mar 8. PMID: 35371980 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8964348/>
Co-author. Curated the patient cohort, collected clinical and molecular data, identified key scans of interest, and contributed to review.

9. Cho NS, Hagiwara A, **Eldred BSC**, Raymond C, Wang C, Sanvito F, Lai A, Nghiemphu P, Salamon N, Steelman L, Hassan I, Cloughesy TF, Ellingson BM. Early volumetric, perfusion, and diffusion MRI changes after mutant isocitrate dehydrogenase (IDH) inhibitor treatment in IDH1-mutant gliomas. *Neuro-Oncology Advances*. 2022 Aug 4. PMID: 36033919 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9400453/>
Third author. Curated the patient cohort, collected clinical and molecular data, identified key MRI scans of interest, and contributed to review.

10. Oshima S, Hagiwara A, Raymond C, Wang C, Cho NS, Lu J, **Eldred BSC**, Nghiemphu PL, Lai A, Telesca D, Salamon N, Cloughesy TF, Ellingson BM. Change in volumetric tumor growth rate after cytotoxic therapy is predictive of overall survival in recurrent glioblastoma. *Neuro-Oncology Advances*. 2023 Jul 9. PMID: 37554221 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10406419/>
Co-author. Curated the patient cohort, collected clinical and molecular data, identified key MRI scans of interest, and contributed to review.

11. Oshima S, **Eldred BSC**, Ellingson BM, et al. Radio-pathomic estimates of cellular growth kinetics predict survival in recurrent glioblastoma. Under initial review at *CNS Oncology*. Submitted 2024 Jul 25.
Co-author. I curated the patient cohort, collected clinical and molecular data, identified key MRI scans of interest, and contributed to review.

12. Lichtenberg, N. T., Thompson, A. B., Iguchi, M. Y., Evans, C. J., & Romero-Calderón, R. (2020). An Undergraduate Student-Led Neuroscience Outreach Program Shows Promise in Shifting Teen Attitudes About Drugs. *Mind, brain and education: the official journal of the International Mind, Brain, and Education Society*. 2020 Oct 4. PMID: 33381224 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7756680/>
Created the educational pamphlet included as Supplementary Material: Supporting File S2. mbe12261-sup-0002-FileS2.pdf

POSTER PRESENTATIONS

Blaine S.C. Eldred, Matthew Ji, Devin Reeh, Thomas Lai, Sean Pianka, Regina Liu, Tie Li, Chris Cox, Albert Lai. FoundationOne CDx Testing in 589 Neuro-oncology Patients at UCLA: A Single Institution Experience. *20th Annual Undergraduate Neuroscience Poster Session*, UCLA. 2019 May 28.

LEADERSHIP EXPERIENCES

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| Journal Club Co-Director, <i>Neuroscience Undergraduate Society, UCLA</i> | May 2018 – Jun 2019 |
| Vice President, Biology Club, <i>Santa Barbara City College, CA</i> | Sep 2015 – Jul 2017 |
| National Youth Leadership Forum on Medicine, <i>Berkeley, CA</i> | Jul 2013 - Jul 2013 |
| President, Book Club, <i>Big House Library, Petaluma, CA</i> | Aug 2011 – Jun 2013 |
| President, Young Astronomers, <i>Sonoma County Astronomical Society, CA</i> | Aug 2007 – Jul 2013 |

HONORS & AWARDS

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| Highest Honors in the Department of Neuroscience, <i>UCLA</i> | Dec 2019 |
| College Honors, <i>UCLA</i> | Dec 2019 |
| Cum Laude, <i>UCLA</i> | Dec 2019 |
| Outstanding Poster Award, <i>UCLA</i> | May 2019 |
| Honors Program Graduate, <i>SBCC</i> | Jul 2017 |
| Honors Program Book Scholarship, <i>SBCC</i> | Mar 2015 |
| James Selleck Bower Endowed Scholarship in the Honors Program, <i>SBCC</i> | May 2015 |
| Community Service Award for 900+ hours | May 2013 |
| Small Learning Community Health Careers Pathway Achievement Award | May 2013 |
| Best in Show, Painting, <i>Decay</i> , Junior Art Competition, <i>Petaluma</i> | Mar 2013 |
| Best in Show, Woodworking, <i>Longboard</i> , Sonoma-Marin Fair | Jul 2009 |
| 1st Place, Woodworking, <i>Cedar Chest</i> , Sonoma-Marin Fair | Jul 2009 |

EXTRACURRICULAR ACTIVITIES

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| Drug Outreach, Promoting Awareness (DOPA) Team | Jan 2019 – Mar 2019 |
| Human Dissection Team | Aug 2014 – Dec 2016 |
| Rock Climbing | Jul 2013 – Present |
| Backpacking | Jul 2013 – Present |
| SCUBA | Aug 2012 – Present |
| Photography | Aug 2009 – Present |
| Woodworking | Aug 2007 – Present |
| Astronomy | Aug 2006 – Present |

TRAINING & CERTIFICATION

HIPAA Certification
Laboratory Safety Certification
Hazardous Waste Management Certification
Mouse and Rat Handling
Survival Surgery in Rodents
Biosafety Cabinet Use
Cell Culture and Sterile Technique
Lentiviral Transfection
PCR and Bisulfite Sequencing
Southern, Northern, Western, and Dot Blots
Gateway Tutor by College Learning and Reading Association
Open Water Diver Certified, SSI (264 logged hours)
CPR, First Aid, and Basic Life Support
Class D and Class M Driver's License, CA

REFERENCES

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