Katharine Y. Chen

Education

University of Washington Seattle, WA
- PhD student, Molecular and Cell Biology Program (MCB) 2011-2015

University of California at Berkeley Berkeley, CA
- B.A. in Molecular and Cell Biology (MCB): Medical Biology and Physiology 2011-2015
- Minor in Environmental Science, Policy & Management (ESPM): Conservation and Resource Studies

Awards

University of California at Berkeley
- MCB Departmental Honors (Major GPA 3.65)
- Undergraduate Research Apprenticeship Program's Summer Funding Award ($2500), May 2013
- Honors-to-Date, Spring 2012

Research Experience

Assistant Specialist and Laboratory Manager, Dr. Joanna Phillips' Lab San Francisco, CA
University of California San Francisco, Dept. of Neurosurgery, Helen Diller Cancer Center Jun. 2015 – Jun. 2018

- Performed experiments on projects aimed at understanding the tumor microenvironment of glioblastoma multiforme and mechanisms of progression in low-grade pediatric glioma.
- Developed new protocols when necessary, for example: established our lab's first human embryonic stem cell model for TERT promoter mutation and differentiated to various lineages.
- Help train and/or familiarize new postdocs, volunteer students, or exchange students in various protocols used in our lab.
- Responsible for general management of the lab.

Research Apprentice, Dr. Justin Brashares' Group & Dr. Douglas McCauley's Lab Berkeley, CA
University of California Berkeley, Dept. of Environmental Science, Policy & Management Sep. 2012 – Aug 2013
University of California Santa Barbara, Dept. of Ecology, Evolution & Marine Biology Mar. 2014 – Jun. 2018

- Prepare mammalian and aquatic species blood, tissue, muscle, hair, and whole organism samples sent from field sites in Kenya for processing in the mass spectrometer for stable isotope analysis, and maintain a database for all samples.
- Perform fieldwork and data collection at the Mpala Research Center in Kenya under the UC Berkeley Undergraduate Research Apprenticeship Program's Summer Funding Award.
- With Dr. Douglas McCauley, formerly a post-doc at the Brashares Group and currently a professor at UC Santa Barbara: Produce an independent manuscript regarding trophic interactions and resource partitioning patterns in riparian species of East Africa using stable isotope analysis and statistical methodologies.

Laboratory and Research Assistant, Dr. Andreas Stahl's Lab Berkeley, CA
University of California Berkeley, Dept. of Nutritional Science & Toxicology Oct. 2012 – May 2015

- Perform various standard laboratory techniques in molecular biology under the guidance of Dr. Kevin Tharp, PhD.
- Perform immunohistochemical techniques including cryo-preservation, cryo-sectioning, staining (including H&E stain, Masson's trichrome stain, BODIPY lipid stain), and imaging by fluorescence and confocal microscopy.
- Assist lab members in routine mouse colony maintenance, including breeding, weaning, sacrifice, and tail-tipping.

- Conduct an independent senior MCB honors thesis entitled, "An examination of lipid profiles in ApoE and FATP5 deficient mouse models", regarding lipid accumulation in livers and serum of various murine genetic models. Present research findings at lab meetings and the MCB Honors Poster Symposium (April 2015).

Research Intern, Dr. Frank Robb's Lab Baltimore, MD
University of Maryland Baltimore School of Medicine, Dept. of Biochemistry Summer 2012 & 2014

- Assist and shadow post-doctoral scholars and graduate students in biochemical laboratory techniques including ion exchange chromatography, DNA cloning and isolation, and hyperthermophilic and chemolithoauthrophic microorganism culture.

Publications

McKinney, A., Lindberg, O.R., Engler, J.R., **Chen, K.Y.**, Gong, H., Lu, K.V., Simonds, E.F., Cloughesy, T.F., Liau, L.M., Prados, M., Bollen, A., Berger, M.S., James, C.D., Shieh, J.T., Nicolaides, T.P., Yong, W.H., Lai, A., Hegi, M.E., Weiss, W., Phillips, J.J. "Mechanisms of resistance to EGFR inhibition reveal metabolic vulnerabilities in human GBM", *Molecular Cancer Therapeutics*, 2019.

Phillips, J.J., Gong, H., **Chen, K.**, Joseph, N.M., van Ziffle, J., Bastian, B.C., Grenert, J.P., Kline, C.N, Mueller, S., Banerjee, A., Nicolaides, T., Gupta, N., Berger, M.S., Lee, H.S., Pekmezci, M., Tihan, T., Bollen, A.W., Perry, A., Shieh, J.T.C., Soloman, D.A., "The genetic landscape of anaplastic pleomorphic xanthoastrocytoma", *Brain Pathology*, 2018

Tran, V.M., Wade, A., McKinney, A., **Chen, K.**, Lindberg, O.R., Engler, J.R., Persson, A.I., Phillips, J.J., "Heparan sulfate glycosaminoglycans in glioblastoma promote tumor invasion", *Molecular Cancer Research*, 2017.

Phillips, J.J., Gong, H., **Chen, K.**, Joseph, N.M., van Ziffle, J., Jin, L., Bastian, B.C., Bollen, A.W., Perry, A., Nicolaides, T., Solomon, D.A., Shieh, J.T., "Activating NRF1-BRAF and ATG7-RAF1 fusions in anaplastic pleomorphic xanthoastrocytoma without BRAF p.V600E mutation", *Acta Neuropathologica*, 2016.

Publications Pending Review

Chen, K.Y., Brashares, J.S., Dawson, T.E., Young, H., Ogada, M., Nyingi, W.D., Nyunja, J., Hughey, L.F., McCauley, D.J., "High degree of dietary niche overlap in an East African River" planned re-submission to *African Journal of Ecology*.

Ohkawa, Y., Wade, A., Lindberg, O.R., **Chen, K.Y.**, Tran, V.M., Brown, S., Kalita, M., James, C.D., Phillips, J.J. "Regulation of receptor tyrosine kinase signaling in glioblastoma", planned submission to *Clinical Cancer Research*.

Tutoring and Teaching Experience

Organic Chemistry Tutor Berkeley, CA
University of California Berkeley, Student Learning Center Jan. 2015 – Apr. 2015

- Tutor UC Berkeley students in general organic chemistry during drop-in tutoring hours.
- Prepare mock review lectures, attend teaching seminars, and prepare tutoring materials and resources.

Mentor
Berkeley Engineers and Mentors (BEAM)

- Prepare and conduct fun science experiments in K-12 schools and encourage young students to pursue careers in STEM.