

Catherine X. Li

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EDUCATION

University of North Carolina, Chapel Hill

Medical Scientist Training Program

August 2019 – Present

Chapel Hill, NC

PhD in Epidemiology from Gillings School of Global Public Health (expected 2025)

MD from School of Medicine (expected 2027)

University of California, Berkeley

School of Public Health

August 2017 – May 2019

Berkeley, CA

MS in Epidemiology

Specialty Area in Public Health Nutrition

GPA: 3.973/4.000

University of California, Berkeley

College of Letters & Sciences

August 2013 - May 2017

Berkeley, CA

BA in Public Health, with Honors & High Distinction in General Scholarship

Minor in Chemistry

GPA: 3.944/4.000

RESEARCH & EXPERIENCE

Project Viva–PFAS Mixtures and Child Metabolic Health

September 2018 – Present

Graduate Student Researcher

Berkeley, CA

- Mentorship under Sharon Sagiv, PhD & Patrick Bradshaw, MS, PhD
- Chemicals mixtures analysis of prenatal per-fluoroalkyl substance (PFAS) exposure.
- Outcomes of interest include child metabolic health at ages 7-11 (adiposity, adiponectin, leptin, insulin resistance).
- Used a Bayesian hierarchical modeling framework to account for correlated exposures and missing data.

Case-Control Simulation Project

December 2017 – Present

Graduate Student Researcher

Berkeley, CA

- Mentorship under Jennifer Ahern, PhD, MPH.
- Designed a simulation to look at the biases associated with drawing control groups from complex survey samples for case-control studies.
- Looked at biases associated with different methods of control sampling (density, cumulative) from various survey designs (clustered, stratified, etc.).
- Set up simulation for parallel computation to run many iterations of the simulation at once.

Strong Children's Research Center

May 2018 – August 2018

Summer Intern

Rochester, NY

- Mentorship under Stephen Cook, MD, MPH.
- Summer research project assessing the weight trajectory of children preceding enrollment in a weight-loss RCT.
- Geo-coded and analyzed address data in R to assess the prevalence of food insecurity and child care needs of families served by an outpatient pediatric clinic in Rochester, NY.

Colorectal Cancer and Reproductive History

July 2017 – May 2018

Graduate Student Researcher

Berkeley, CA

- Mentorship under Patrick Bradshaw, MS, PhD.

- Conducted matched logistic regression, multinomial logistic regression, and meta-analysis on women in the Colon Cancer Family Registry Dataset.
- Looked at reproductive history factors (hormonal birth control use, hormone replacement therapy, etc.) on colorectal cancer incidence, including incidence by tumor subtype.

Strong Children's Research Center

May 2016 – August 2016

Summer Intern

Rochester, NY

- Mentorship under Stephen Cook, MD, MPH.
- Summer research project on the effects and management of food insecurity in children and families.
- Conducted a review of past literature and analyzed retrospective cross-sectional survey data and demographic data using multivariable logistic regression.
- Presented findings and proposed solutions to the medical center, key community organizations, and at a national pediatrics meeting.

Stahl Lab

August 2014 – May 2017

Undergraduate Researcher

Berkeley, CA

- Mentorship under Kevin Tharp, PhD & Andreas Stahl, PhD.
- Investigated the effects of bioengineered brown adipose tissue implants (BAT-MACT) using a mouse model.
- Explored the binding interactions of alpha-10 human integrin in preparation for the potential application of brown adipose tissue implants as a therapeutic for obesity.
- Ran western blots to look at the relationship between actomyosin and brown adipose tissue.

LEAP Institute, San Mateo Medical Center

July 2014 – August 2014

Summer Intern

San Mateo, CA

- Worked to implement the principles of lean enterprise in healthcare departments at San Mateo Medical Center with the goal of reducing waste and cost in the hospital system.
- Focused specifically on the acute psychiatric ward.
- Transcribed, analyzed, and cleaned data, assisted with office work, observed meetings at all levels of the hospital in efforts to implement lean.

PUBLICATIONS & PRESENTATIONS

C. X. Li, S. Sagiv, P.T. Bradshaw. The Impact of Exposure to Perfluoroalkyl Substance Mixtures on Child Metabolic Health. *In Preparation*

C. X. Li, E. C. Matthay, C. Rowe, P.T. Bradshaw, J. Ahern. Conducting Case-Control Studies using Survey Data with Complex Sampling Designs: A Simulation Study. *Submitted*

C. X. Li, E. C. Matthay, C. Rowe, P.T. Bradshaw, J. Ahern. Conducting Case-Control Studies using Survey Data with Complex Sampling Designs: A Simulation Study. Oral presentation at the 51st Annual Meeting for the Society for Epidemiologic Research, Baltimore, MD, June 21, 2018.

M. Mattiucci, **C. X. Li**, S. R. Cook. Food Insecurity and the WE-CARE Survey. Oral presentation by M. Mattiucci at the Pediatric Academic Societies annual meeting, Toronto, Can. May 6, 2018.

K. M. Tharp, M.S. Kang, G. A. Timblin, J. Dempersmier, G. E. Dempsey, P. H. Zushin, J. Benavides, C. Choi, **C. X. Li**, A. K. Jha, S. Kajimura, K. E. Healy, H. S. Sul, K. Saijo, S. Kumar, A. Stahl. Actomyosin-mediated tension orchestrates uncoupled respiration in adipose tissues. *Cell Metabolism* 27, 602–615.e4, 2018.

C. X. Li, K. M. Tharp, A. Stahl. Exploring the Impact of Bioengineered Brown Adipose Tissue Implants in a Mouse Model. Public Health Undergraduate Honors Thesis. Presented May 2017.

C. X. Li, K. DiBitetto, S. R. Cook. The WE-CARE Survey and Food Insecurity. Poster presented at the Pediatric Academic Societies annual meeting, San Francisco, CA. May 6-9, 2017.

SKILLS

Software & Programming

Proficient:

R/R Markdown, \LaTeX ,
Excel, Zotero

Competent:

STATA, Git/Github, GIS (R)

Familiar:

Python, SAS, Tableau

Laboratory

Molecular:

PCR, Primer Design, Bacterial Cloning,
Gel Electrophoresis, Immunoprecipitation,
Western Blot

Animal:

Mouse Husbandry & Colony Upkeep,
Respirometry

Analysis & Theory

- Epidemiologic Study Design and Theory
- Causal Inference Theory
- Generalized Linear Models
- Hierarchical Models
- Bayesian Statistics
- Statistical Simulation

TEACHING

Introduction to Human Nutrition (NUSCTX 10)

August 2018 – December 2018

Graduate Student Instructor

Berkeley, CA

- Taught 3 discussion sections of 30 students (95 students total) for 1 hour/week and held office hours 1-2 hours/week.
- Lectured on current topics in nutrition including food insecurity, nutrition research, and food technology.
- Created course materials including worksheets, lecture slides, and exam questions.
- Calculated midterm and final exam summary statistics and implemented final grade distribution for the course.

Intro to Surgery DeCal

July 2016 – May 2017

Course Creator/Course Facilitator

Berkeley, CA

- Developed curriculum inspired by the Shumway Surgical Skills Summer Internship offered at Stanford School of Medicine.
- Taught students basic surgical techniques through hands-on workshops.
- Discussed innovation and development, both past and present, in the field of surgery.
- Helped lead a team of teaching assistants to discuss best practices in teaching surgical technique and possible improvements to the curriculum.

Issues: Berkeley Medical Journal DeCal

September 2015 – May 2017

Course Facilitator

Berkeley, CA

- Writer (from August 2013), Editor (from August 2014), and Course Facilitator (from May 2015).
- Taught and provided mentorship to students unfamiliar with scientific journalism, with a focus on topics relating to novel research in medicine, biotechnology, and public health.
- Worked with students to translate research presented in complex scientific studies into material understandable by the general UC Berkeley population.

SERVICE

Asian Health Services Labor Coach

January 2016 – May 2017 | Oakland, CA

Assist families with limited English proficiency during childbirth as a patient advocate and translator (Mandarin Chinese). Champion importance of communication between patients and health care professionals, especially in addressing cultural needs and customs.

UCSF Benioff Children's Hospital Oakland Volunteer

June 2015 - November 2015 | Oakland, CA

Art While You Wait Program Volunteer as part of the hospital's volunteer program. Supervised children in activities such as coloring and puzzles, organized games for groups of children in the Emergency Department waiting room.

Ziyang People's Hospital Volunteer

May 2015 – June 2015 | Ziyang, China

Shadowed in many departments throughout the hospital. Assisted nurses in the operating room and expanded proficiency in Mandarin medical terminology. Learned about China's healthcare system and cultural differences in comparison to the United States' system.

AWARDS

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| UNC Doctoral Merit Assistantship UNC Gillings School of Global Public Health | 2019-2020 |
| Department of Epidemiology Departmental Award Scholarship UC Berkeley School of Public Health | Fall 2017 |
| Dean's Honors List UC Berkeley College of Letters & Science | 2014-2016 |