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Engineering & Scientific Consulting

Ellen Chang, Sc.D.

Principal Scientist | Health Sciences

Menlo Park

+1-650-688-6734 tel | echang@exponent.com

Professional Profile

Dr. Chang has more than two decades of experience in designing, conducting, and interpreting epidemiologic studies, with a particular focus on studies of cancer and other chronic diseases. She provides scientific consultation on the potential human health effects of various chemicals (such as dioxins, chlorinated solvents, pesticides, polychlorinated biphenyls [PCBs], and perfluoroalkyl and polyfluoroalkyl substances [PFAS]), air pollutants, metals and metalloids, fibers, pharmaceuticals, medical devices, consumer products, electromagnetic fields, and nutrients. She has expertise in qualitatively and quantitatively synthesizing the weight of epidemiologic evidence on causal effects of environmental exposures. Dr. Chang's recent projects include evaluations of the epidemiologic evidence on PFAS, including perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in association with cancer, immune outcomes, and other health conditions; diesel engine exhaust in association with lung cancer mortality; glyphosate, TCDD, trichloroethylene, and perchloroethylene in association with non-Hodgkin lymphoma and other cancers; benzene in association with leukemia; talc in association with mesothelioma; fine particulate matter, ozone, and oxides of nitrogen in association with all-cause and cause-specific mortality; and organophosphate insecticides in association with birth and developmental outcomes. Dr. Chang also frequently conducts and coordinates analyses of cancer incidence, mortality, and survival in population-based cancer registries, and investigates potential cancer clusters in communities, schools, and workplaces.

Dr. Chang has led original research studies of cancers of the head and neck, nasopharynx, stomach, liver, lung and bronchus, skin, breast, uterus, ovary, prostate, thyroid, and lymphatic system. These studies focused on a wide range of exposures including genetic variation, physical activity, body size, diet and nutrition, alcohol consumption, tobacco smoking, ultraviolet radiation, immunologic biomarkers, microbial infections, use of nonsteroidal anti-inflammatory drugs and other medications, use of hormone therapy and oral contraceptives, reproductive factors, medical history, family structure, and demographic characteristics. In addition, Dr. Chang has conducted cancer surveillance research at one of the U.S. National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) registries, and contributed to community-based research on hepatitis B and liver cancer awareness, detection, prevention, and medical management at the Asian Liver Center at Stanford University. Dr. Chang earned her undergraduate degree in English and American literature and language from Harvard College. She earned her Sc.D. (Doctor of Science) in epidemiology with a minor in biostatistics from the Harvard School of Public Health, and she completed a post-doctoral fellowship at the Karolinska Institute. She is an Adjunct Associate Professor in the Department of Epidemiology & Biostatistics at the University of California, San Francisco, and a Visiting Professor at the Sun Yat-sen University Cancer Center. She is a former Consulting Assistant Professor in the Division of Epidemiology, Department of Health Research and Policy at the Stanford University School of Medicine, and a former member of the Stanford Cancer Institute. Dr. Chang has published more than 200 peer-reviewed research articles and reviews, and 12 book chapters.

Academic Credentials & Professional Honors

Sc.D., Epidemiology, Harvard University, 2003

B.A., English, Harvard University, 1998

National Cancer Institute Minority Investigators Workshop on Behavioral Methodologies Fellowship

New York Academy of Sciences (NYAS) Science Alliance Program Membership

National Institutes of Health Ruth L. Kirschstein National Research Service Award

American Association for the Advancement of Science (AAAS)/Science Program for Excellence in Science Membership

Harvard University Sheldon Traveling Fellowship

Harvard School of Public Health Department of Epidemiology Seiden Scholarship

Harvard University Pforzheimer Public Service Fellowship

National Cancer Institute/Harvard School of Public Health Cancer Epidemiology Pre-Doctoral Training Program Fellowship

Academic Appointments

Adjunct Associate Professor, Department of Epidemiology & Biostatistics, University of California San Francisco, 2021-

Visiting Professor, Sun Yat-sen University Cancer Center, 2019-2022

Prior Experience

Member, Stanford Cancer Institute

Consulting Assistant Professor, Division of Epidemiology, Department of Health Research and Policy, Stanford University School of Medicine, 2005–2017

Research Scientist, Cancer Prevention Institute of California, 2005–2012

Consulting Assistant Investigator, Department of Health Policy Research, Palo Alto Medical Foundation Research Institute, 2008–2012

Chief Epidemiologist, Asian Liver Center at Stanford University, 2006–2011

Post-Doctoral Fellow, Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, 2003–2005

Professional Affiliations

American College of Epidemiology (Fellow)

Society for Epidemiologic Research

Publications

Adami HO, Trolle Andersen I, Heide-Jørgensen U, Chang ET, Nørgaard M, Toft Sørensen H. Ranitidine use and risk of upper gastrointestinal cancers. *Cancer Epidemiology, Biomarkers & Prevention* 2021; 30(12): 2302-2308.

Zhou X, Cao SM, Cai YL, Zhang X, Zhang S, Feng GF, Chen Y, Feng QS, Chen Y, Chang ET, Liu Z, Adami HO, Liu J, Ye W, Zhang Z, Zeng YX, Xu M. A comprehensive risk score for effective risk stratification and screening of nasopharyngeal carcinoma. *Nature Communications* 2021; 12(1): 5189.

Tsuji JS, Lennox KP, Watson HN, Chang ET. Essential concepts for interpreting the dose-response of low-level arsenic exposure in epidemiological studies. *Toxicology* 2021; 457: 152801.

Chang ET, Ye W, Zeng YX, Adami HO. The evolving epidemiology of nasopharyngeal carcinoma. *Cancer Epidemiology, Biomarkers & Prevention* 2021; 30(6): 1035-1047.

Huang T, Ploner A, Chang ET, Liu Q, Cai YL, Zhang Z, Chen GM, Huang QH, Xie SH, Cao SM, Jia WH, Zheng YM, Liao J, Chen YF, Lin LD, Ernberg I, Huang GW, Zheng Y, Zeng YX, Adami HO, Ye W. Dietary patterns and risk of nasopharyngeal carcinoma: a population-based case-control study in southern China. *American Journal of Clinical Nutrition* 2021; 114(2): 461-471.

Advisory Appointments

Panelist, Evidence Synthesis and Its Application, National Academies Committee on Guidance on PFAS Testing and Health Outcomes, July 2021

Steering Committee Member, Subcommittee on Application of Environmental Epidemiology for Risk Assessment and Decision Making, Health and Environmental Sciences Institute (HESI), 2019–present

Contributor, American *Cancer Society Cancer Facts & Figures*, 2014–2021

Member, Faculty of 1000 Medicine, 2007–2017

Steering Committee Member, California Teachers Study, 2007–2012

Scientific Member, Institutional Review Board, Cancer Prevention Institute of California, 2006–2012

Ad hoc member, ZRG1 PSE-P (02) M: NIH Special Emphasis Panel/Scientific Review Group for EPIC (Epidemiology of Cancer), March 2014

Ad hoc member, EPIC (Epidemiology of Cancer), NIH Population Sciences and Epidemiology Integrated Review Group, February and October 2010, June 2012

Ad hoc member, ZCA1 SRLB-3 (J1): NIH-Supported Centers for Population Health and Health Disparities Special Emphasis Panel, October 2009

Reviewer, Academia Sinica Investigator Award, 2009

Peer Reviews

Acta Oncologica

American Journal of Epidemiology

American Journal of Public Health

Annals of Epidemiology
Annals of Oncology
Blood
Breast Cancer Research
Cancer
Cancer Causes & Control
Cancer Epidemiology
Cancer Epidemiology, Biomarkers & Prevention
Cancer Research
Clinical Cancer Research
Critical Reviews in Toxicology
Environment International
Environmental Research
Epidemiology
European Journal of Epidemiology
Hepatology
International Journal of Cancer
JAMA
Journal of Medical Virology
Journal of the National Cancer Institute
Journal of the National Cancer Institute (JNCI) Cancer Spectrum
Leukemia Research
Molecular Carcinogenesis
Nutrition and Cancer
PLOS ONE
Regulatory Toxicology and Pharmacology
Risk Analysis
Social Science & Medicine

Toxicology