Contributions to ROBHOOT

Christine Choirat work for EPFL/SDSC in ROBHOOT. Christine will coordinate the full life-cycle reproducibility of ROBHOOT (WP1, WP2, WP3). Christine will also apply and develop techniques for replicability of the data and causal knowledge discovery. EPFL/SDSC team has a wide experience in reproducibility and replicability in data science and reproducible research.

Gender balance SDSC is committed to employ an equal number of women and men, involving both in research and teaching. Currently the ratio of men and women is well balanced with a ratio of 40/60.

List of Publications

Wasfy, J. H., Zigler, C. M., Choirat, C., Wang, Y., Dominici, F., Yeh, R. W. (2017). Readmission rates after passage of the hospital readmissions reduction program: A pre-post analysis. Annals of Internal Medicine, 166(5), 324–331. https://doi.org/10.7326/M16-0185 Di, Q., Wang, Y., Zanobetti, A., Wang, Y., Koutrakis, P., Choirat, C., . . . Schwartz, J. D. (2017). Air Pollution and Mortality in the Medicare Population. New England Journal of Medicine, 376(26), 2513–2522. https://doi.org/10.1056/NEJMoa1702747 Di, Q., Dai, L., Wang, Y., Zanobetti, A., Choirat, C., Schwartz, J. D., Dominici, F. (2017). Association of short-term exposure to air pollution with mortality in older adults. JAMA - Journal of the American Medical Association, 318(24), 2446–2456. https://doi.org/10.1001/jama.2017.17923 Zigler CM, Kim C, Choirat C, Hansen JB, Wang Y, Hund L, Samet JM, King G, and Dominici F (2016) Causal Inference Methods for Estimating Long-Term Health Effects of Air Quality Regulations. The Health Effects Institute, Cambridge, MA. http://pubs.healtheffects.org/view.php?id=453 Henneman, L. R. F., Choirat, C., Zigler, C. M. (Forthcoming). Accountability assessment of health improvements in the United States associated with reduced coal emissions between 2005 and 2012. Epidemiology.

List of relevant projects

1. R01 ES026217 (PI: Zigler) - NIH
   Causal Inference with Interference for Evaluating Air Quality Policies
   02/01/2016 - 01/31/2021

   Public health interventions routinely target upstream determinants of health to advance the health of pop- ulations, but methods for causal inference to evaluate their effectiveness are limited by a current focus on clinical investigations of individual-level therapies. This work develops methods for bipartite causal inference with interference for the evaluation of complex public health interventions. We deploy the newly-developed methodology to compare the effectiveness of regulatory policies designed to reduce health burden associated with pollution emissions from power plants across the US.
   Role: Co-Investigator

2. R01 ES028033 (PI: Laden) - NIH
   Relationship Between Multiple Environmental Exposures and CVD Incidence and Survival: Vulnerability and Susceptibility
   12/15/2017 - 11/30/2022

   The major goals of the proposed project are to study associations of lmultiple environmental exposures on cardiovascular disease (CVD), mortality and survival after a non-fatal CVD event in the context of multiple confounders and effect modifications. We will be developing new statistical methods, assessing air pollution (particulate matter, nitrogen dioxide, and ozone) and weather (e.g. temperature variability) as main effects, and evaluating effect modification by contextual, lifestyle and genetic factors.
   Role: Co-Investigator