Pre-course reading

To get the most out of the Environmental Mixtures Workshop, please read the required paper below prior to August 23rd. We've also included some optional reading if you would like to further prepare.

Required Reading

The workshop will be using the dataset described in Mitro et al. 2016:

1. Mitro SD, Birnbaum LS, Needham BL, Zota AR. Cross-sectional Associations between Exposure to Persistent Organic Pollutants and Leukocyte Telomere Length among U.S. Adults in NHANES, 2001–2002. Environmental Health Perspectives. 2016;124(5):651-658. doi:10.1289/ehp.1510187.

Optional Reading: Primary

1. Carrico C, Gennings C, Wheeler DC, Factor-Litvak P. Characterization of weighted quantile sum regression for highly correlated data in a risk analysis setting. Journal of Agricultural, Biological, and Environmental Statistics. 2015 Mar 1;20(1):100-20.
2. Chapters 6.2 (Lasso) and 10 (PCA and clustering):

   James G, Witten D, Hastie T, Tibshirani R. An introduction to statistical learning with applications in R. New York: Springer; 2013.
3. *BKMR modeling framework:* Bobb JF, Valeri L, Claus Henn B, et al. Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures. *Biostatistics (Oxford, England)*. 2015;16(3):493-508. doi:10.1093/biostatistics/kxu058.
4. *Software implementation of BKMR methods in R:* Bobb JF, Claus Henn B, Coull BA. Statistical software for analyzing the health effects of multiple concurrent exposures via Bayesian kernel machine regression. *Accepted Manuscript to Environmental Health*. August 2018

Optional Reading: Secondary

1. Fan J, Li R. Variable selection via nonconcave penalized likelihood and its oracle properties. *Journal of the American Statistical Association*. 2001;96(456):1348-1360.
2. Tibshirani R. Regression shrinkage and selection via the lasso. *Journal of the Royal Statistical Society: Series B (Methodological).* 1996;58(1):267-288.
3. Yuan M, Lin Y. Model selection and estimation in regression with grouped variables. *Journal of the Royal Statistical Society: Series B (Methodological)*. 2006;68(1):49-67.
4. Zhang C. Nearly unbiased variable selection under minimax concave penalty. *The Annals of Statistics*. 2010;38(2):894-942.