Integrating Environmental Data with Other Omics for Cancer Epidemiology virtual workshop

Key Publications

Reviews

1. Adkins-Jackson, P.B., et al., *Measuring Structural Racism: A Guide for Epidemiologists and Other Health Researchers*. Am J Epidemiol, 2022. 191(4): p. 539-547.
2. Everson, T.M. and C.J. Marsit, *Integrating -Omics Approaches into Human Population-Based Studies of Prenatal and Early-Life Exposures*. Curr Environ Health Rep, 2018. 5(3): p. 328-337.
3. Ghosh, D., et al., *Leveraging Multilayered "Omics" Data for Atopic Dermatitis: A Road Map to Precision Medicine*. Front Immunol, 2018. 9: p. 2727.
4. Gillette, M.A., et al., *Proteogenomic Characterization Reveals Therapeutic Vulnerabilities in Lung Adenocarcinoma*. Cell, 2020. 182(1): p. 200-225.e35.
5. Graw, S., et al., *Multi-omics data integration considerations and study design for biological systems and disease*. Mol Omics, 2021. 17(2): p. 170-185.
6. Gruszecka-Kosowska, A., A. Ampatzoglou, and M. Aguilera, *Integration of Omics Approaches Enhances the Impact of Scientific Research in Environmental Applications*. Int J Environ Res Public Health, 2022. 19(14): p. 8758.
7. López de Maturana, E., et al., *Challenges in the Integration of Omics and Non-Omics Data*. Genes (Basel), 2019. 10(3).
8. Noble, A.J., et al., *A Final Frontier in Environment-Genome Interactions? Integrated, Multi-Omic Approaches to Predictions of Non-Communicable Disease Risk*. Front Genet, 2022. 13: p. 831866.
9. Price, E.J., et al., *Merging the exposome into an integrated framework for "omics" sciences*. iScience, 2022. 25(3): p. 103976.
10. Ritchie, M.D., et al., *Methods of integrating data to uncover genotype–phenotype interactions*. Nature Reviews Genetics, 2015. 16(2): p. 85-97.
11. Tarazona, S., A. Arzalluz-Luque, and A. Conesa, *Undisclosed, unmet and neglected challenges in multi-omics studies*. Nature Computational Science, 2021. 1(6): p. 395-402.
12. Xiao, Y., et al., *Multi-omics approaches for biomarker discovery in early ovarian cancer diagnosis*. eBioMedicine, 2022. 79: 104001.
13. Shah, R.V., et al., *Dietary metabolic signatures and cardiometabolic risk*. Eur Heart J, 2022. ehac446.
14. Davies, N.M., M.V. Holmes, and G.D. Smith, *Reading Mendelian randomisation studies: a guide, glossary, and checklist for clinicians*. BMJ, 2018. 362: k601.
15. Fang, Z., et al., *The Role of Mendelian Randomization Studies in Deciphering the Effect of Obesity on Cancer*. J Natl Cancer Inst, 2022. 114(3): p. 361-371.

16. Zeinomar, N., et al., *Environmental exposures and breast cancer risk in the context of underlying susceptibility: A systematic review of the epidemiological literature*. Environ Res, 2020. 187: 109346.
17. Terry, M.B., et al., *Environmental exposures during windows of susceptibility for breast cancer: a framework for prevention research*. Breast Cancer Res, 2019. 21(1): 96.
18. Huls, A. and D. Czamara, *Methodological challenges in constructing DNA methylation risk scores*. Epigenetics, 2020. 15(1-2): p. 1-11.
19. Yalcin, G.D., et al., *Systems Biology and Experimental Model Systems of Cancer*. J Pers Med, 2020. 10(4): 180.
20. Pfohl, U., et al., *Precision Oncology Beyond Genomics: The Future Is Here—It Is Just Not Evenly Distributed*. Cells, 2021. 10(4): 928.

Applications:

21. Kehm, R.D., et al., *Associations of prenatal exposure to polycyclic aromatic hydrocarbons with pubertal timing and body composition in adolescent girls: Implications for breast cancer risk*. Environ Res, 2021. 196: 110369.
22. Shen, J., et al., *Dependence of cancer risk from environmental exposures on underlying genetic susceptibility: an illustration with polycyclic aromatic hydrocarbons and breast cancer*. Br J Cancer, 2017. 116(9): p. 1229-1233.
23. Peng, C., et al., *A latent unknown clustering integrating multi-omics data (LUCID) with phenotypic traits*. Bioinformatics, 2020. 36(3): p. 842-850.
24. Dixon, H.M., et al., *Discovery of common chemical exposures across three continents using silicone wristbands*. R Soc Open Sci, 2019. 6(2): 181836.
25. Samon, S.M., et al., *Associating Increased Chemical Exposure to Hurricane Harvey in a Longitudinal Panel Using Silicone Wristbands*. Int J Environ Res Public Health, 2022. 19(11): 6670.
26. Oluyomi, A.O., et al., *Houston hurricane Harvey health (Houston-3H) study: assessment of allergic symptoms and stress after hurricane Harvey flooding*. Environ Health, 2021. 20(1): 9.
27. Dutta, D., et al., *Aggregative trans-eQTL analysis detects trait-specific target gene sets in whole blood*. Nat Commun, 2022. 13(1): 4323.
28. Boye, C., et al., *Characterization of caffeine response regulatory variants in vascular endothelial cells*. bioRxiv, 2022. doi: 10.1101/2022.11.22.517533.
29. Balmain, A., *The critical roles of somatic mutations and environmental tumor-promoting agents in cancer risk*. Nat Genet, 2020. 52(11): p. 1139-1143.
30. Bissell, M.J. and W.C. Hines, *Why don't we get more cancer? A proposed role of the microenvironment in restraining cancer progression*. Nat Med, 2011. 17(3): p. 320-329.
31. Freedman, A.N., et al., *The placenta epigenome-brain axis: placental epigenomic and transcriptomic responses that preprogram cognitive impairment*. Epigenomics, 2022. 14(15), p. 897-911.
32. Santos Jr., H.P., et al., *Evidence for the placenta-brain axis: multi-omic kernel aggregation predicts intellectual and social impairment in children born extremely preterm*. Mol Autism, 2020. 11(1): 97.
33. Garcia, A.L.C., V.M. Arlt, and D.H. Phillips, *Organoids for toxicology and genetic toxicology: applications with drugs and prospects for environmental carcinogenesis*. Mutagenesis, 2022. 37(2): p. 143-154.
34. Cao, Z.J. and G. Gao, *Multi-omics single-cell data integration and regulatory inference with graph-linked embedding*. Nat Biotechnol, 2022. 40(10): p. 1458-1466.