



The field of population health is rapidly moving to the forefront of research, with the advancement of biotechnologies and growth of collaborations enabling the vast accumulation of population health data. The availability of such data crossing multiple dimensions, from electronic health records, lifestyles, environmental factors, genetics, to genomics, is promising for further advancing the field via translational bioinformatics. However, large volumes of data present diverse challenges for existing informatics technology, in terms of computational efficiency, modeling effectiveness, statistical computing, discovery algorithms, and heterogeneous data integration.

We invite researchers from various fields to present high-impact research in these areas:

1. Methodological approaches/studies that enable multiscale data fusion and integrative analytics applied across translational bioinformatics and population health. This topic could include:
  - Investigations of drug repositioning from population and genomic data fusion or network science
  - Computational systems biology methods applied to molecular epidemiology
  - Novel *high throughput phenotyping* methods for improving PheWAS
  - Strategies of High throughput exposomics: Large-scale computations on exposure to chemicals or physical forces applied to populations
  - Approaches that enhance the understanding of the genetic/epigenetic mechanisms of complex diseases and their interplay with the environment and lifestyles (e.g., using eMERGE, UK Biobank, or All of US program)
  - Strategies for translating of these findings to clinical practice to improve health outcomes
2. Studies/methods for reverse translation from population science. Such topics may include:
  - Better or faster automated discovery methods to generate basic science hypotheses from the vast amount of data collected in clinical trials (e.g., the rate of collecting clinical trial data in cancer immunotherapy is now outpacing our understanding of the underlying biology)
3. The importance of population health and big data integration in precision medicine.
  - Strategies for translating discoveries obtained from #1-2 (above) to clinical practice

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## SUBMISSION

Please submit a one-page abstract of your presentation to Colleen Kenost at [ckenost@email.arizona.edu](mailto:ckenost@email.arizona.edu) by Wednesday, August 1, 2018. References and one figure are optional and will not be counted towards the page limit.

Notifications of accepted presentations will be sent out on Wednesday, August 15, 2018.

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