

Breakout Session Two:
Biology Big Data Science
DLR 143B
2:00-4:00pm

CTSI-BIGTAP Training Workshop for Translational Omics Research

The Purdue “Big Data Training for Translational Omics Research’ (BIGTAP) team would like to offer a two-hour training workshop for omics-based big data science. This NIH-funded program aims to help graduate students, trainees and faculty **who have no experience in omics-based research** to 1) learn principles of omics-based approach and application in biomedical research; 2) increase the awareness of existing tools and databases for omics-based big data; and 3) increase their ability to communicate with professionals in statistics and bioinformatics about big data science. This two-hour session will cover short lectures about logistics and essential concepts about omics-based study design, data analysis and interpretation, as well as a hands-on training class guiding how to use existing tools for utilizing publically available omics data.

AUDIENCE

Graduate students, postdoctoral fellows, research scientists, clinical fellows and faculty members are encouraged to attend.

BACKGROUND REQUIREMENT

None. You do not need to have any background knowledge on omics, computation, statistics and/or bioinformatics. The workshop is particularly for researchers without any experience of omics-based research. Attendees are encouraged to ***bring their own laptop computers*** for hands-on learning.

TOPICS

Session I:

Principles of omics-based big data research (2:00-3:00pm)

- a) Introduction: Purdue Big Data Training Program for Translational Omics Research
- b) What is the value of “high density phenotype” data?
- c) What you must know before you start?
- d) How do you make sense of large volumes of data?

Session II:

Existing tools and databases: Using data produced by others for your research (3:00-4:00pm)

- a) Brief Overview of Publicly available data resources
- b) Guided tours and exercises for two common resources