Introduction to Bioinformatics

55th Annual Short Course on Medical & Experimental Mammalian Genetics
Jackson Laboratory, Bar Harbor, Maine
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McKUSICK-NATHANS Institute of Genetic Medicine

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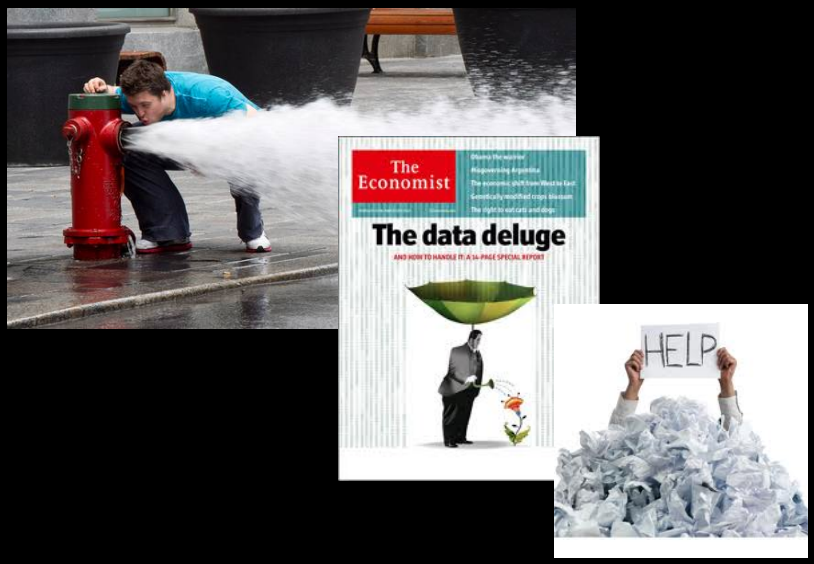
Bioinformatics Sessions in the Short Course

- Monday 7/21: Introduction
- Wednesday 7/23: Handling Data - Deanna Church & Carol Bult
- Thursday 7/24: Secrets of the Human Genome - Deanna Church & Carol Bult
- Friday 7/25: Tools for analyzing your data - Deanna Church & Carol Bult
- Tuesday 7/29: Statistical methods for complex disease genetics – Aravinda Chakravarti

Today’ s agenda

- Introduction: Aravinda Chakravarti
- Introduction to Bioinformatics Sessions: Carol Bult
- Introduction to MGI: Joanne Berghout
- Introduction to OMIM: Ada Hamosh

Drinking from a fire hydrant



Diverse computational needs

The entire landscape of the data generated by our experiments has changed from defined focused tests of hypotheses to broad screens emanating from technologies that can produce massive amounts of data.

- Bioinformatics: the science of organization, storage, retrieval, and manipulation of biological data to reveal patterns;
- Computational Biology: model-based inference of function from structure (mutation detection from sequence, networks from expression, interactions from 3D structure, etc.)
- Statistics: The analysis of data to distinguish signal from noise and to design experiments.