

What is genomics?

Steven Salzberg

Oxford Dictionaries:

“The branch of molecular biology concerned with the structure, function, evolution and mapping of genomes.”

slide adapted from Ben Langmead



Oxford Dictionaries:

“The branch of molecular biology concerned with the **structure**, function, evolution and mapping of genomes.”

what is the biochemical sequence of the genome
and what are its physical properties?

slide adapted from Ben Langmead



Oxford Dictionaries:

“The branch of molecular biology concerned with the structure, **function**, evolution and mapping of genomes.”

what does all the DNA do?

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Oxford Dictionaries:

“The branch of molecular biology concerned with the structure, function, **evolution** and mapping of genomes.”

how do sequences change over evolutionary time?



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Oxford Dictionaries:

“The branch of molecular biology concerned with the structure, function, evolution and **mapping** of genomes.”

where are the genes and other interesting bits?

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Collins English Dictionary:

“The branch of molecular genetics concerned with the study of genomes, specifically the identification and sequencing of their constituent genes and **application** of this knowledge in **medicine**, **pharmacy**, **agriculture**, etc.”



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Biology & Genetics

Genomics

Targeted studies of one or a few genes

Studies considering all genes in a genome

Targeted, low-throughput experiments

Global, high-throughput experiments

Clever experimental design, painstaking experimentation

Tons of data, uncertainty, computation



scope



technology



hard part

