

**Welcome to
the Bioinformatics Class!**



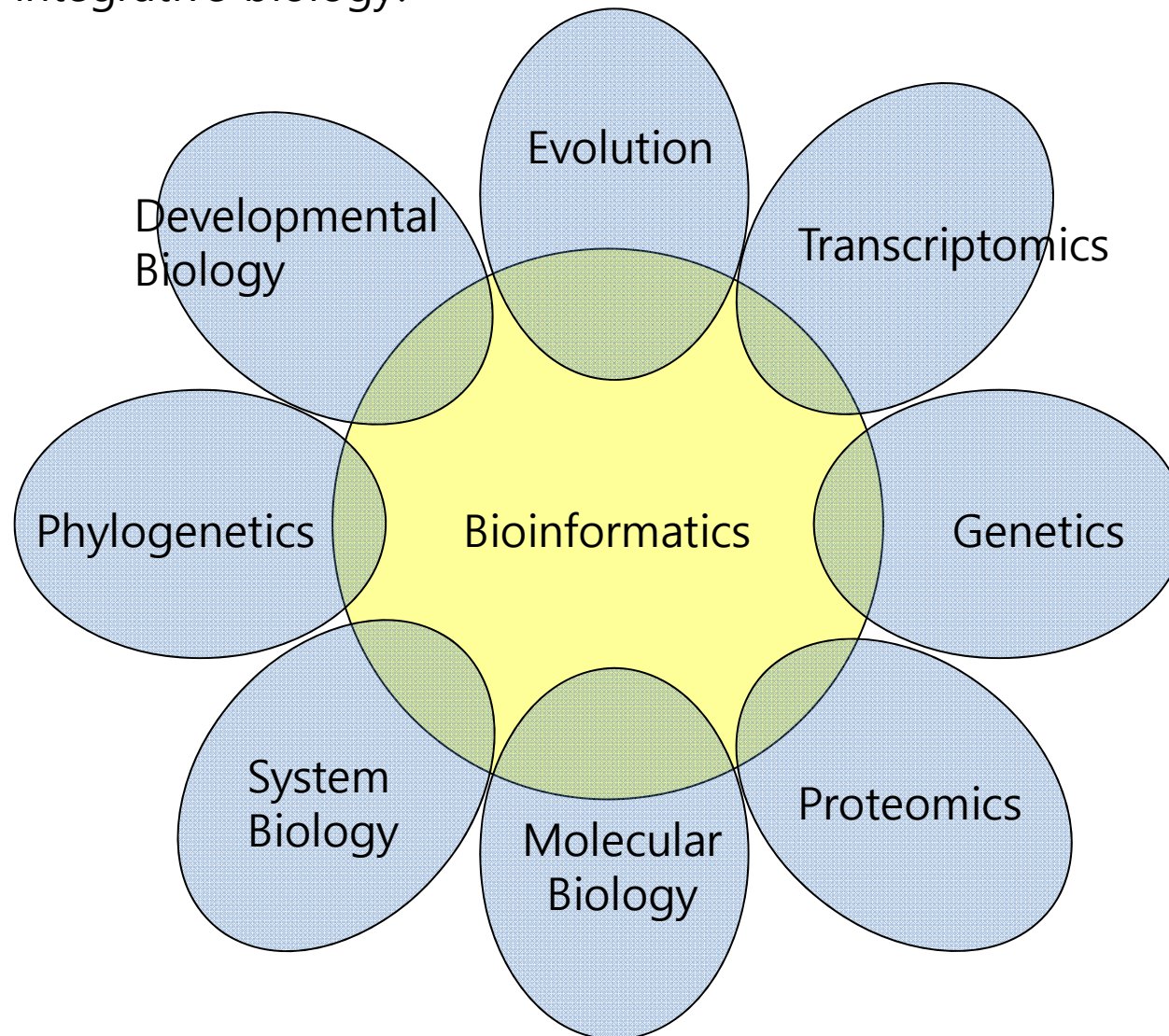
ocket science is for kids
informatics is for scientists



***rocket science is for kids
informatics is for scientists***

BIOINFORMATICS ?

- BT(Bio Technology) + IT(Information Technology)
- Truly integrative biology!



nature



THE FUTURE IS BRIGHT

Reflections on the first ten years of the human genomics age

THE END OF THE BEGINNING

PAGE 187

MORE BASES PER DOLLAR

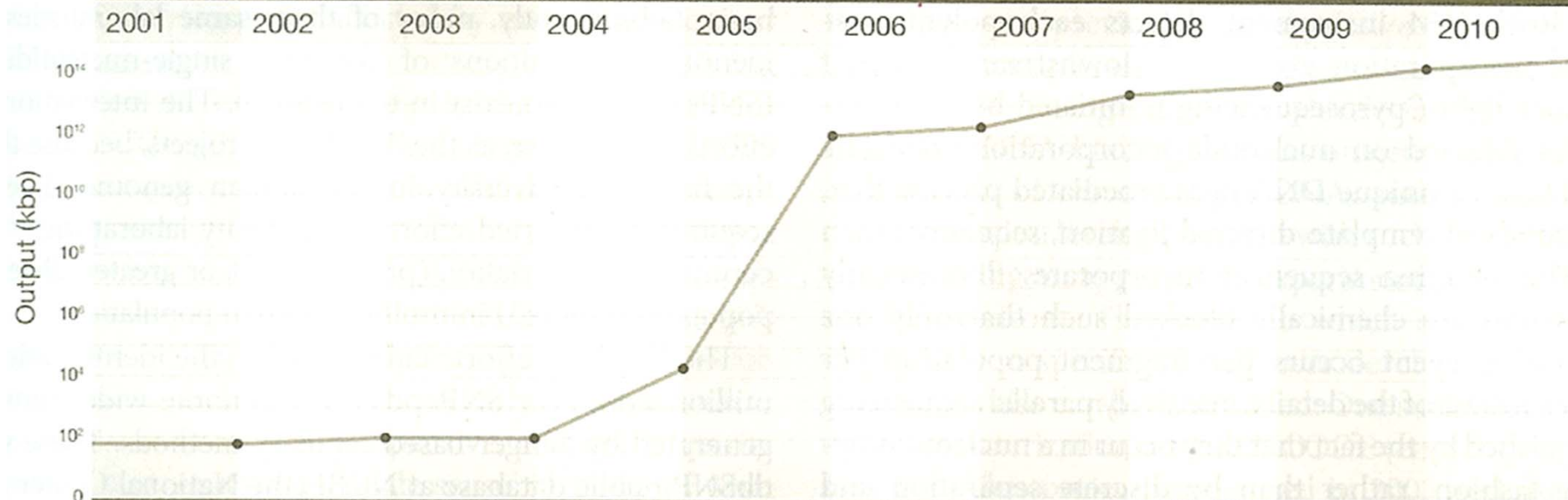
PAGE 198

FROM LAB TO CLINIC

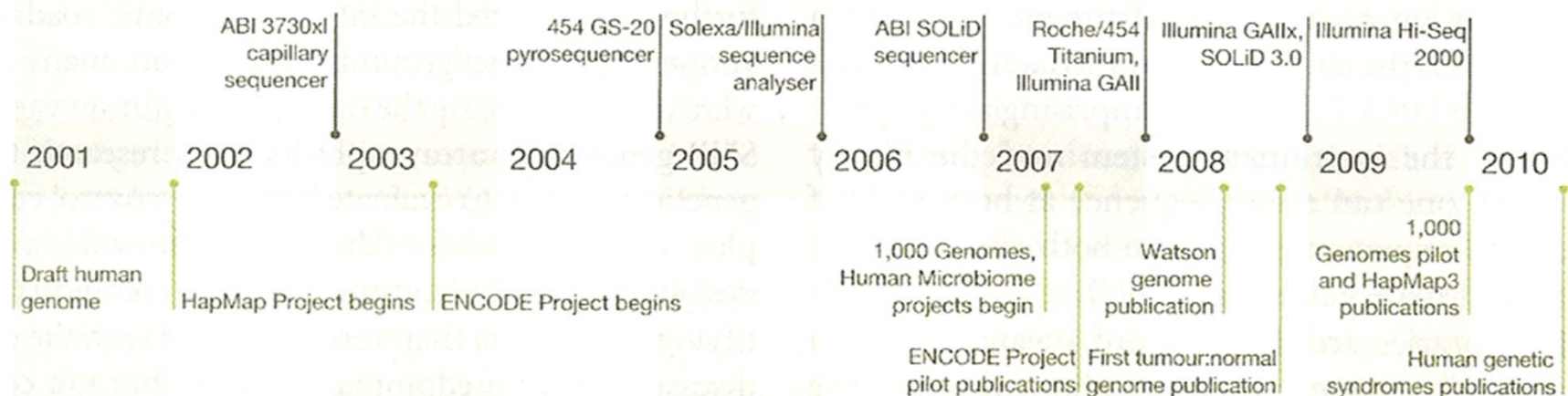
PAGE 204

個人購読 개인구독 个人订阅

Output per instrument run

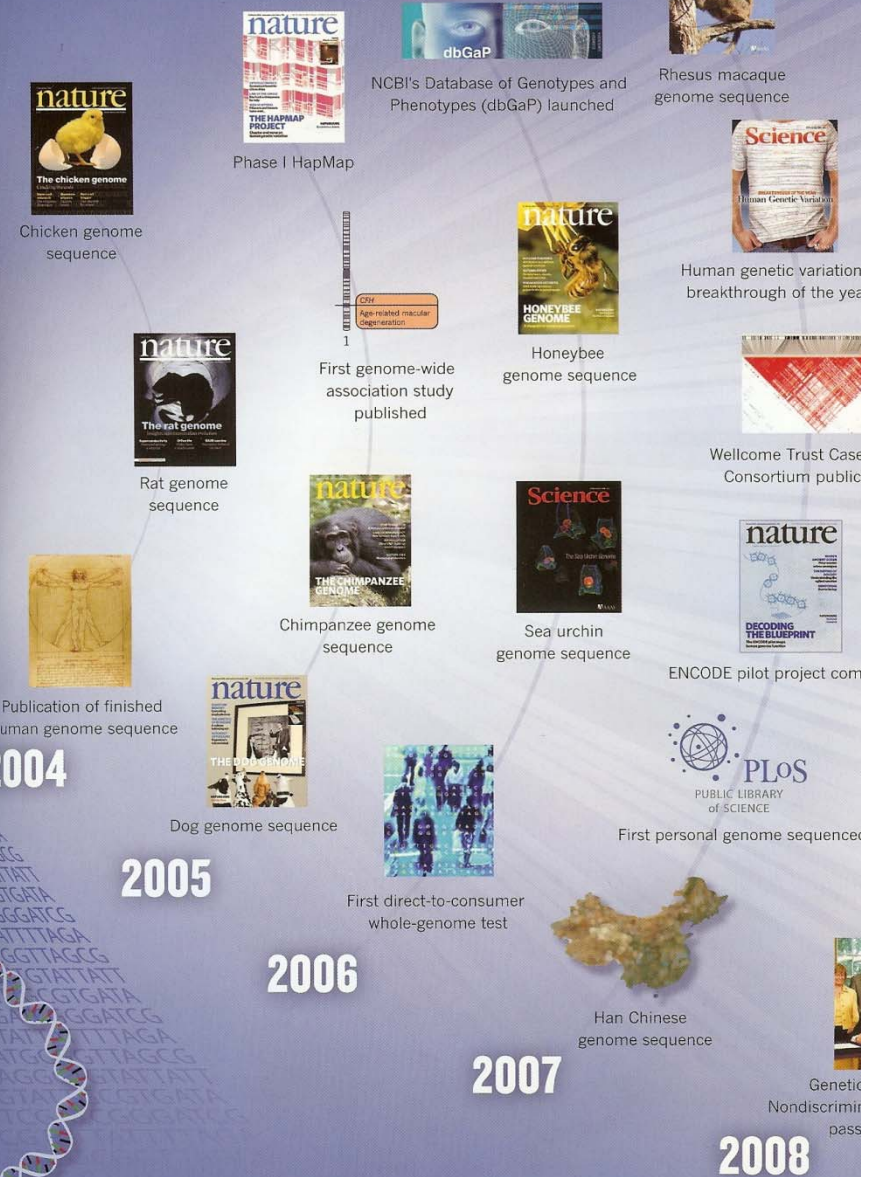
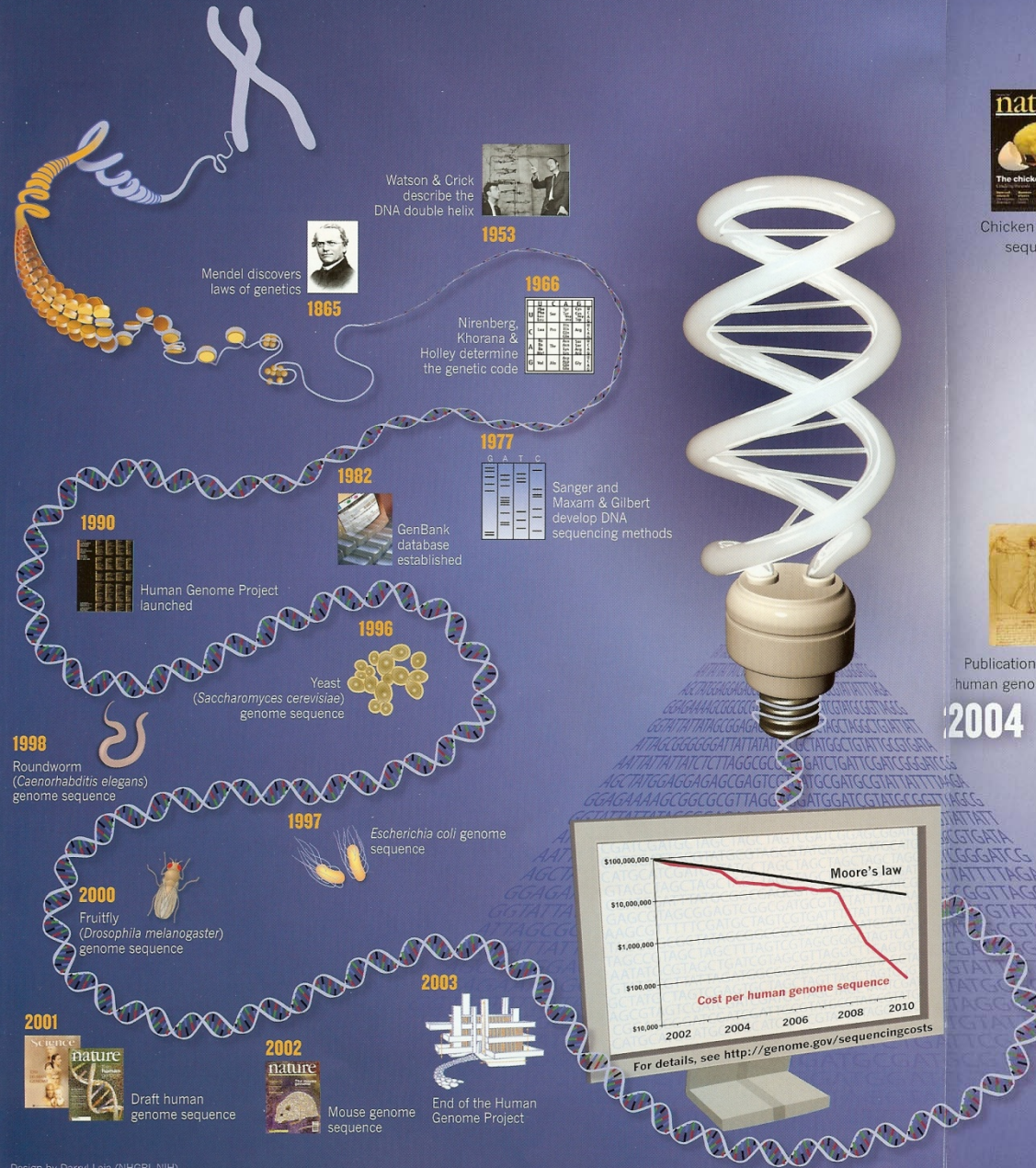


Platforms



Projects and publications

Genomic achievements since the Human Genome Project



nature

The chicken genome
Cracking the code

Neuroscience **Genetics** **Medicine**
The language of the genome
Genetics
Genetics
Genetics

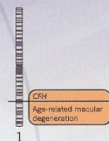


dbGaP

The image shows the front cover of a Science magazine special issue. The cover features a photograph of a person's torso wearing a white t-shirt. The t-shirt has a graphic design consisting of horizontal lines of varying lengths and colors (red, orange, yellow, green, blue, purple) that resemble a DNA sequence or a barcode. The word "Science" is printed in large, bold, red letters at the top. Below it, in smaller black text, is "SPECIAL ISSUE". At the bottom, in large, bold, black letters, is "Human Genetic Variation".

[illegible]

chicken genome
sequence

[illegible]

nature

The rat genome
Sequencing, analysis and more than 100,000 genes

Supplement **On the rise** **SAFARI**
The human genome The rise of the African continent The world of the future

nature

Genetic insights into human evolution
A new look at the human genome
The chimpanzee genome
The human brain
The human eye
The human heart
The human liver
The human lung
The human muscle
The human skin
The human stomach
The human testis
The human thyroid
The human uterus
The human vagina
The human ovary
The human placenta
The human fetus
The human infant
The human child
The human adult
The human elderly

THE CHIMPANZEE GENOME

nature

Genetics
Molecular biology
Cell biology
Development
Plant biology
Microbiology
Immunology
Neurobiology
Physiology
Zoology
Earth and space science
Technology
Policy
Commentary
Book reviews
Obituary
Index
Contents

DECODING THE BLUEPRINT
The ENCODE project maps the human genome

ication of finished
n genome sequence



PLOS
PUBLIC LIBRARY
of SCIENCE

A diagram of a protein structure. It features several orange-colored alpha-helices and yellow-colored beta-sheets. Three specific regions are labeled with 'CH₃' in black text, indicating methyl groups attached to the protein backbone.

[illegible]

1 2 3 4 5 6 7 8

■ Coding
■ UTR

c.560>A
c.A03C>T
c.A44G>A
c.690C>T
c.605A>C
c.G17delT
c.7300C>T
c.851C>T
c.C036C>T
c.1178A>G



Medical profiling and online medicine: The ethics of personalized healthcare in a consumer age

2005

2006

2007

2008

2009

2010

Science

14 October 2011 | \$10



AAAS

I hope so...

최초의 한국인 게놈 해독 논문: 김성진박사 게놈

Downloaded from genome.cshlp.org on August 11, 2009 - Published by Cold Spring Harbor Laboratory Press



The first Korean genome sequence and analysis: Full genome sequencing for a socio-ethnic group

Sung-Min Ahn, Tae-Hyung Kim, Sunghoon Lee, et al.

Genome Res. published online May 26, 2009

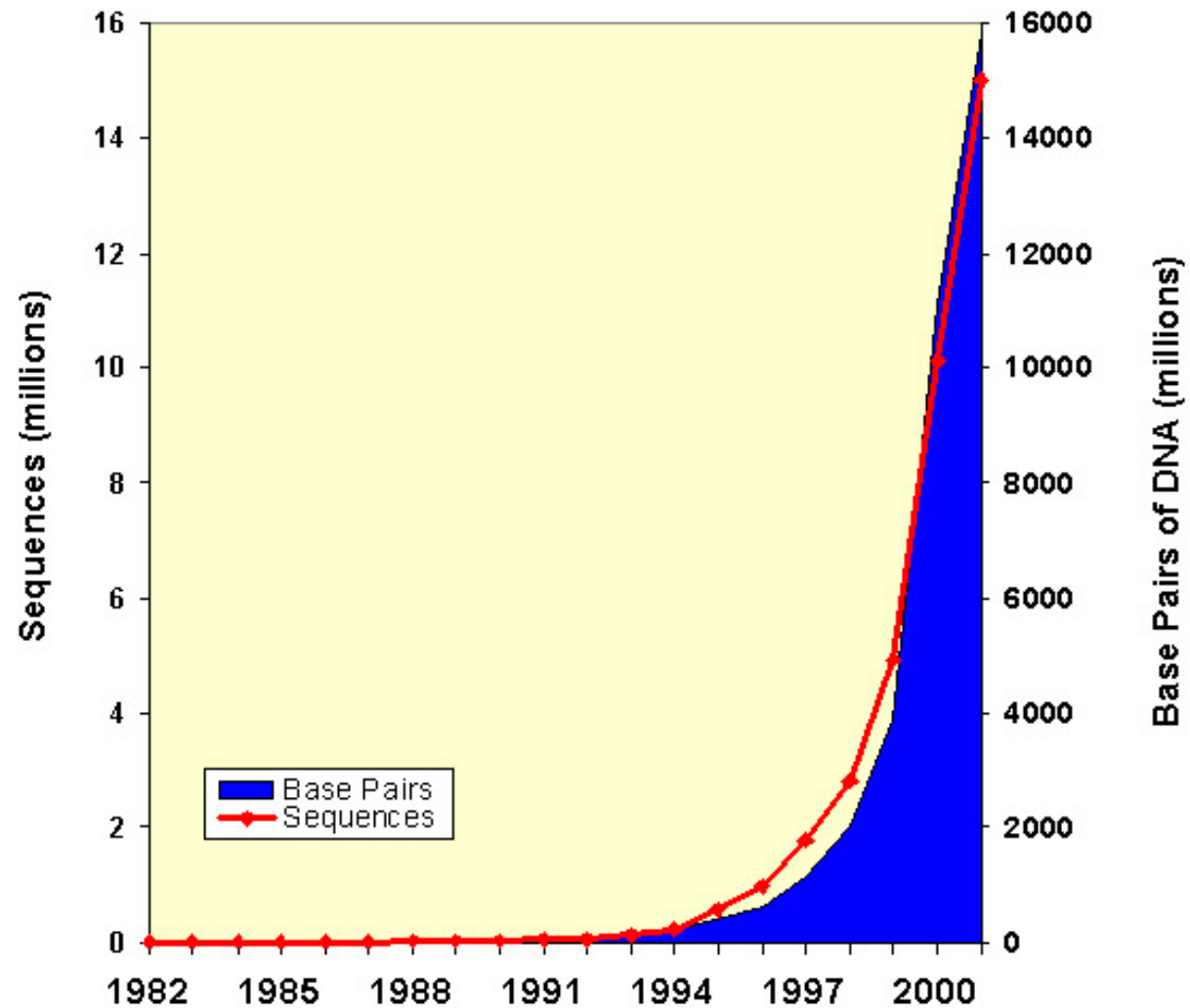
Access the most recent version at doi:[10.1101/gr.092197.109](https://doi.org/10.1101/gr.092197.109)



Dr. Kim Seong-jin

GenBank에 축적되는 염기서열 개수와 염기 수

Growth of GenBank



같이 시청해 봅시다!

http://www.ted.com/talks/richard_resnick_welcome_to_the_genomic_revolution.html?quote=1064

Today's key word and
Take home message:

NGS (Next Generation Sequencing):
High-throughput revolutionary DNA
sequencing technique