

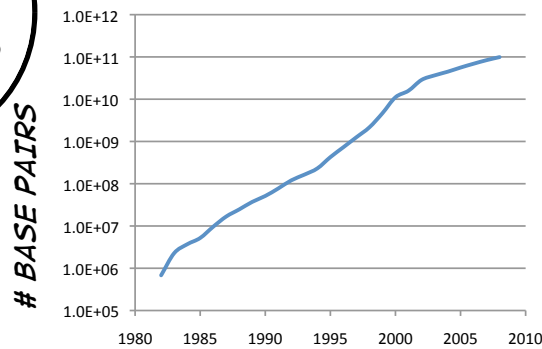
2 MAJOR CHALLENGES (& OPPORTUNITIES) FOR THE LIFE SCIENCES IN THE 21ST CENTURY

CASEY BERGMAN, FACULTY OF LIFE SCIENCES, UNIVERSITY OF MANCHESTER

1. DNA SEQUENCING IS ACCELERATING AT AN EVER-INCREASING RATE

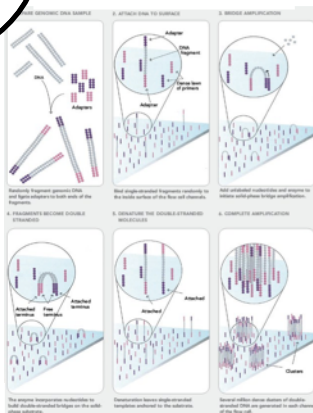
ADVANCES IN DNA SEQUENCING TECHNOLOGY HAVE LED TO A REVOLUTION IN THE LIFE SCIENCES REFERRED TO AS THE "POST-GENOMICS ERA"

SINCE 1982, THE PRODUCTION OF DNA SEQUENCES HAS DOUBLED EVERY 18 MONTHS!

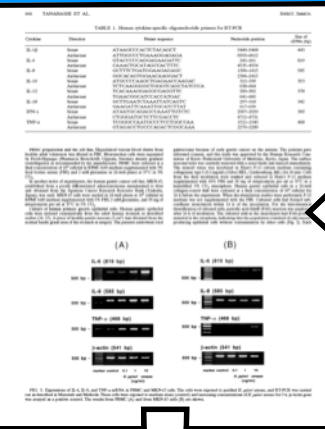


NEXT GENERATION SEQUENCERS WILL MAKE THE \$1000 GENOME A POSSIBILITY BY 2015

SEQUENCING BY SYNTHESIS



OBSERVATION: MANY BIOMEDICAL ARTICLES CONTAIN DNA SEQUENCES

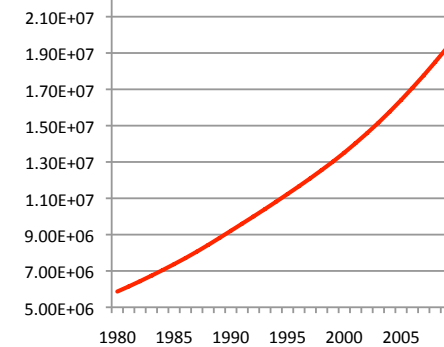


2. THE NUMBER OF LIFE SCIENCES PUBLICATIONS IS GROWING RAPIDLY

INCREASED GLOBAL RESEARCH OUTPUT AND RAPID DIGITAL PUBLISHING NOW MAKE IT IMPOSSIBLE TO READ ALL PAPERS EVEN FOR ONE DISCIPLINE

OVER 2000 LIFE SCIENCES ARTICLES ARE PUBLISHED EVERY DAY!

ARTICLES



DNA FROM TEXT MAPPED TO GENOME WITH LINKS TO PUBMED

3. TEXT2GENOME: A RESOURCE FOR LINKING THE LIFE SCIENCE LITERATURE TO DNA SEQUENCES

Genomic query types:

- Genome Coordinates
- Gene IDs
- Ortholog IDs



Textual query types:

- Keywords
- MeSH terms
- Pubmed IDs

