FIRST PRINCIPLE CALCULATIONS OF DEFECT STRUCTURES IN ZINC OXIDE

By

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the requirements for the degree of

BACHELOR OF SCIENCE IN APPLIED PHYSICS

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To the Faculty of University of the Philippines Diliman National Institute of Physics:

The members of the Committee appointed to examine the thesis of CHRISTIAN LOER T. LLEMIT find it satisfactory and recommend that it be accepted.

Roland V. Sarmago, Ph.D., Chair

Donald Trump, Ph.D.

Rodrigo Duterte, Ph.D.

ACKNOWLEDGMENT

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FIRST PRINCIPLE CALCULATIONS OF DEFECT STRUCTURES

IN ZINC OXIDE

Abstract

by Christian Loer T. Llemit, BS
University of the Philippines - Diliman
May 2020

: Roland V. Sarmago

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This dissertation/thesis is dedicated to my mother and father who provided both emotional and financial support

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This is an example of how to cite [1]

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insert the symmetry points in IBZ.

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explains fermi dirac distribution

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This is sample text

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Example of double quotes “word”. Lore

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cbands, cegterg, cdiaghg

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DOST COARE

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6.1 Some Math Stuff

LaTeX has a special way to embed mathematical symbols and notations. Here are some of them. Also observe how a bullet list is made.

- greater than $\geq$
- less than $\leq$
- percent sign %
- multiply $N \times N$
- inline equation $M = N(N-1)/2$

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6.2 Math equation

Example of a mathematical formula:

$$ADD = \sum_{i=1}^{M} | < D(n+1, i) > - < D(n, i) > | \tag{6.1}$$

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6.3 Chapter section

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Chapter Seven

FIGURES AND TABLES

7.1 Examples of a figure

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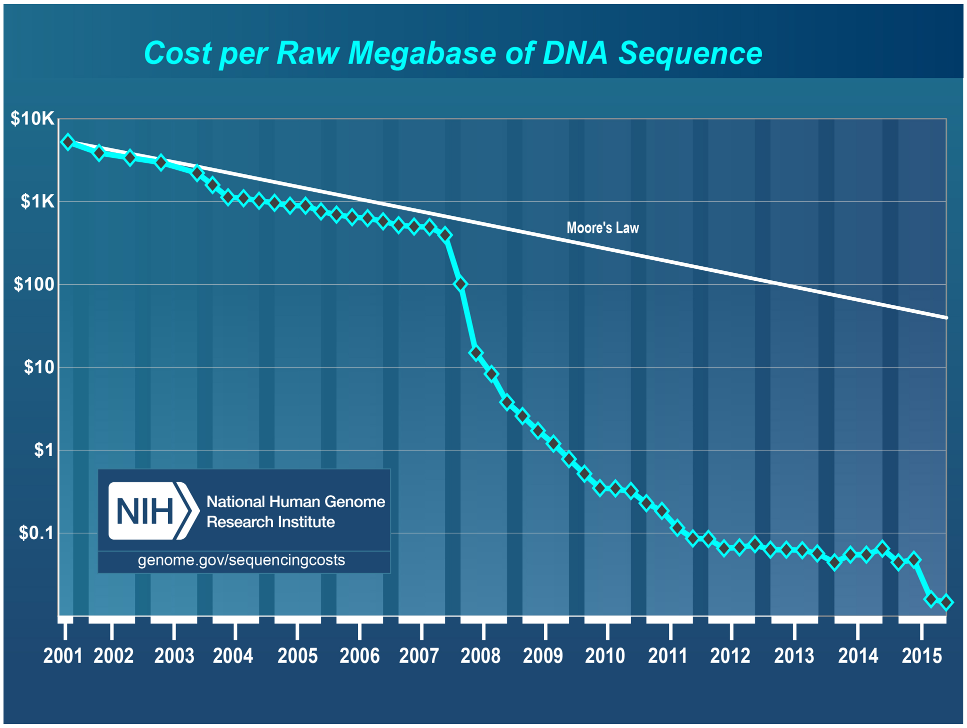

Figure 7.1 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]

7.2 Example of a table

Example of a table and here is the reference to Table 7.1. Tables in, my opinion, are the hardest thing to make.

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Organism	Accession no.	Genome size (bp)	No. CDS
Mesorhizobium loti	NC_002678	7036071	6743
Sinorhizobium meliloti	NC_003047	3654135	3359
Bradyrhizobium japonicum	NC_004463	9105828	8317
Rhodopseudomonas palustris	NC_005296	5459213	4813
Bartonella quintana	NC_005955	1581384	1142
Bartonella henselae	NC_005956	1931047	1488
Rickettsia typhi	NC_006142	1111496	837
Beijerinckia indica	NC_010581	4170153	3569

Table 7.1 Whole-genome sequences used in this study

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2. Wetterstrand, K. A. *DNA Sequencing Costs: Data from the NHGRI Genome Sequencing Program (GSP)* www.genome.gov/sequencingcosts.

APPENDIX

Appendix A

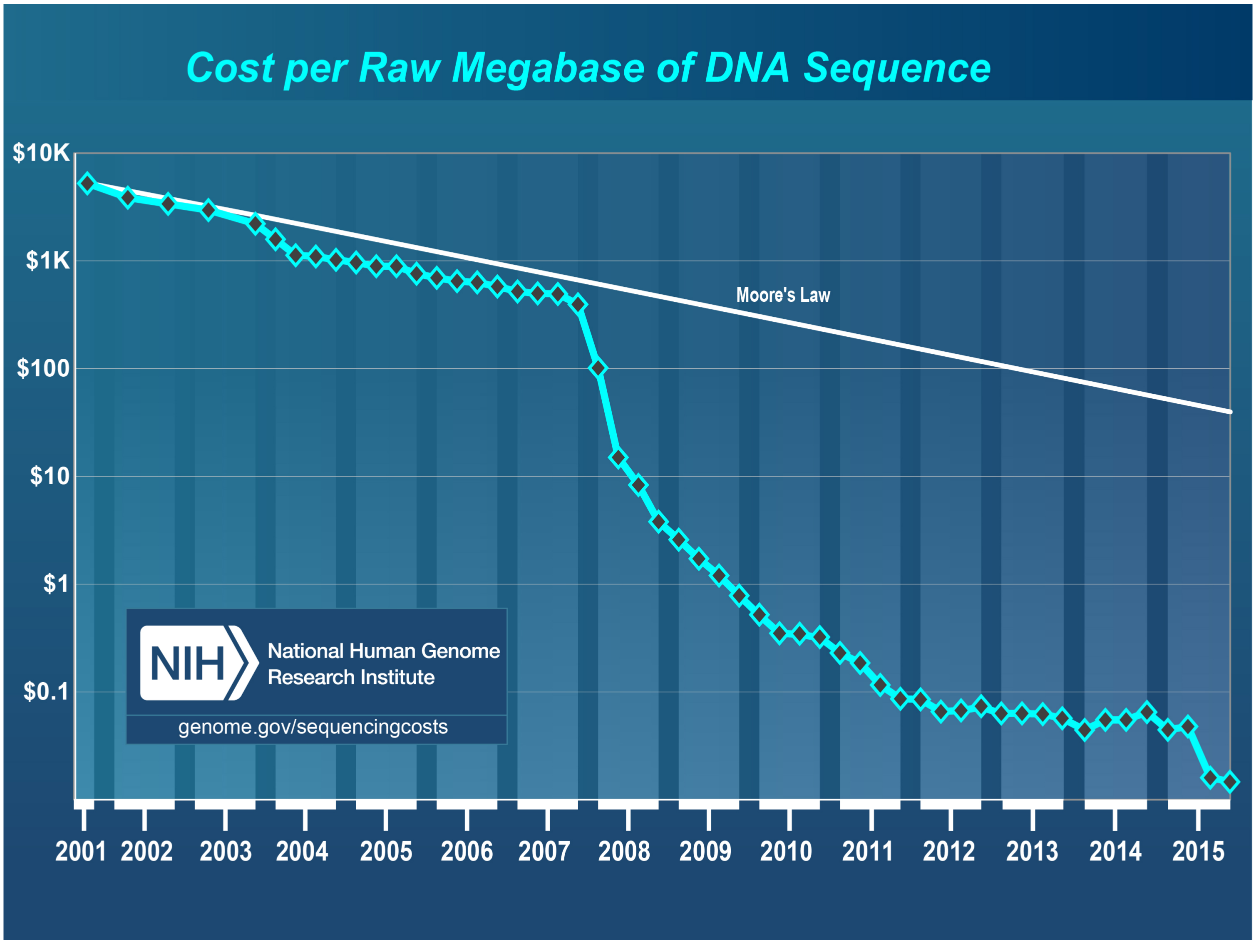

Figure A.1 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]

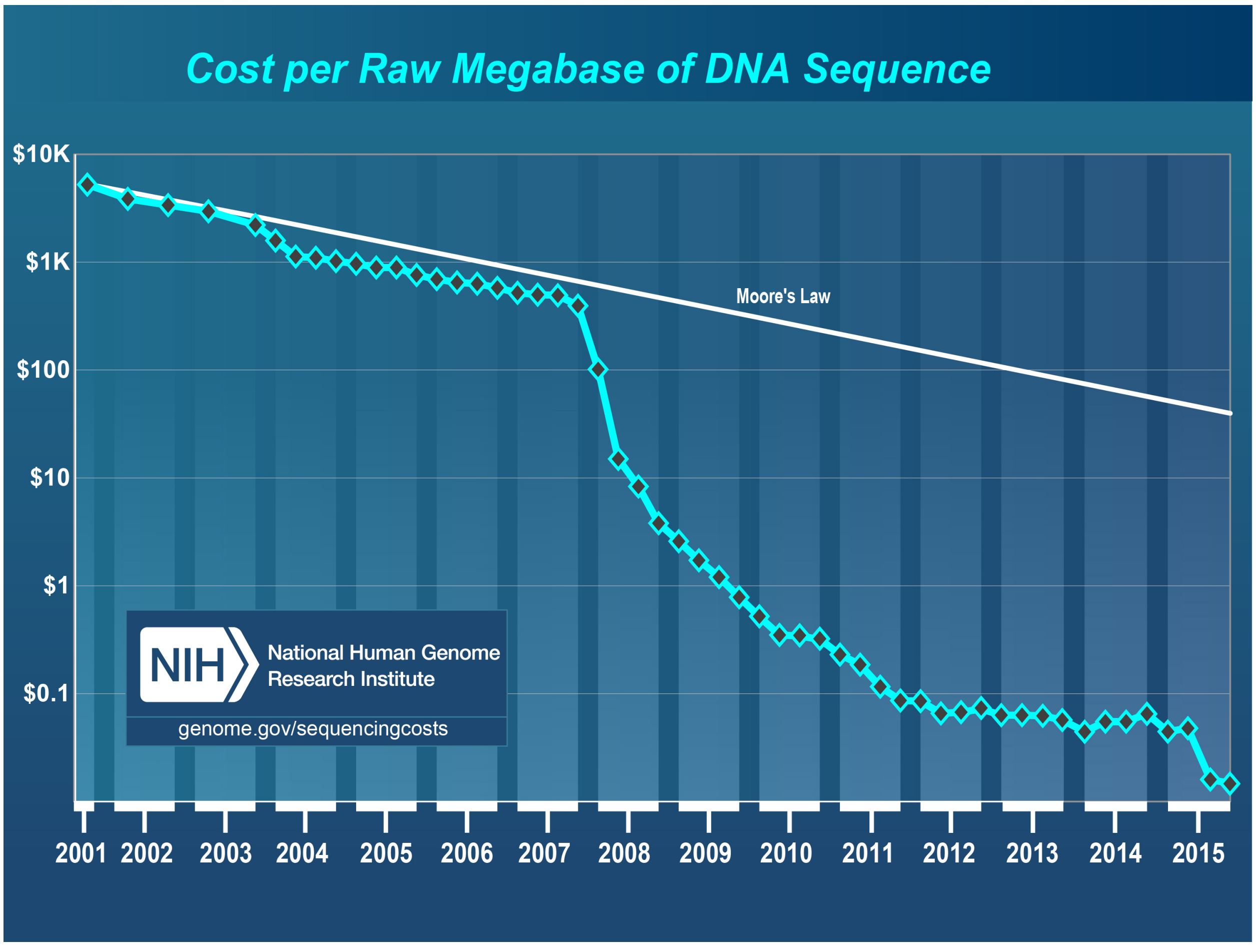

Figure A.2 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]

Appendix B

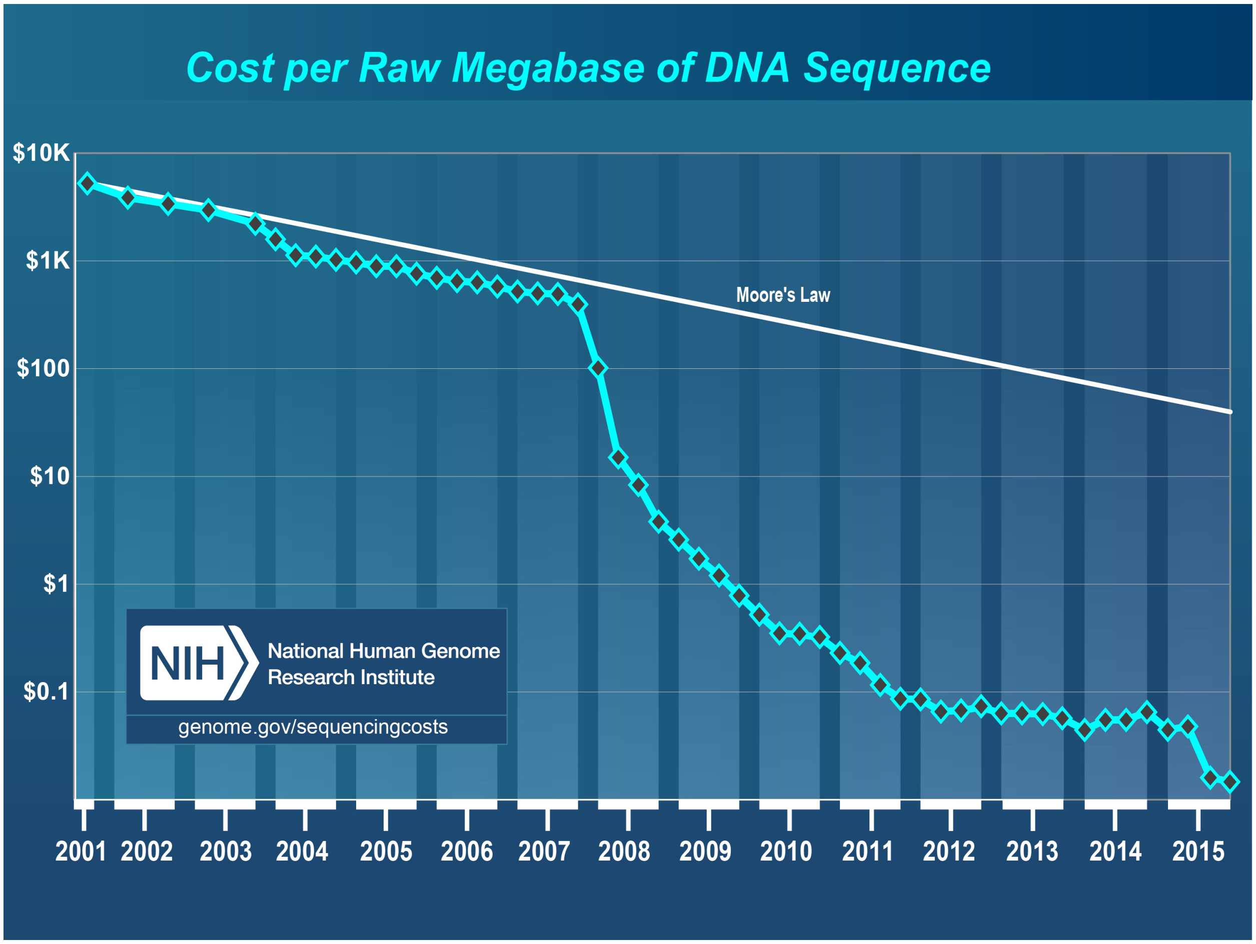

Figure B.1 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]

Appendix C

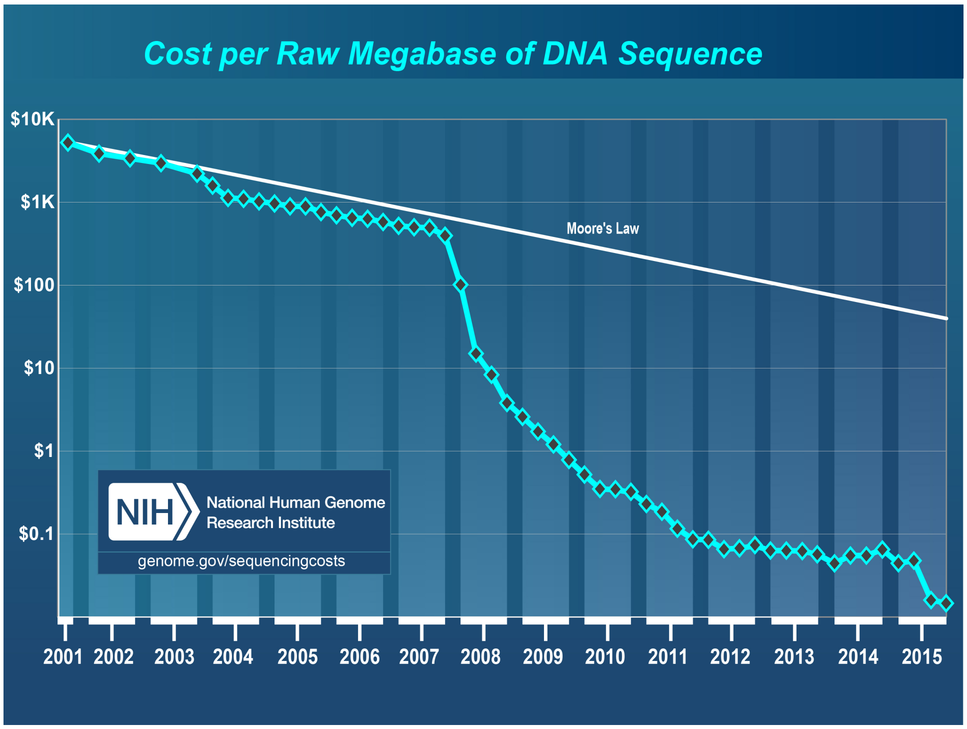

Figure C.1 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]

Appendix D

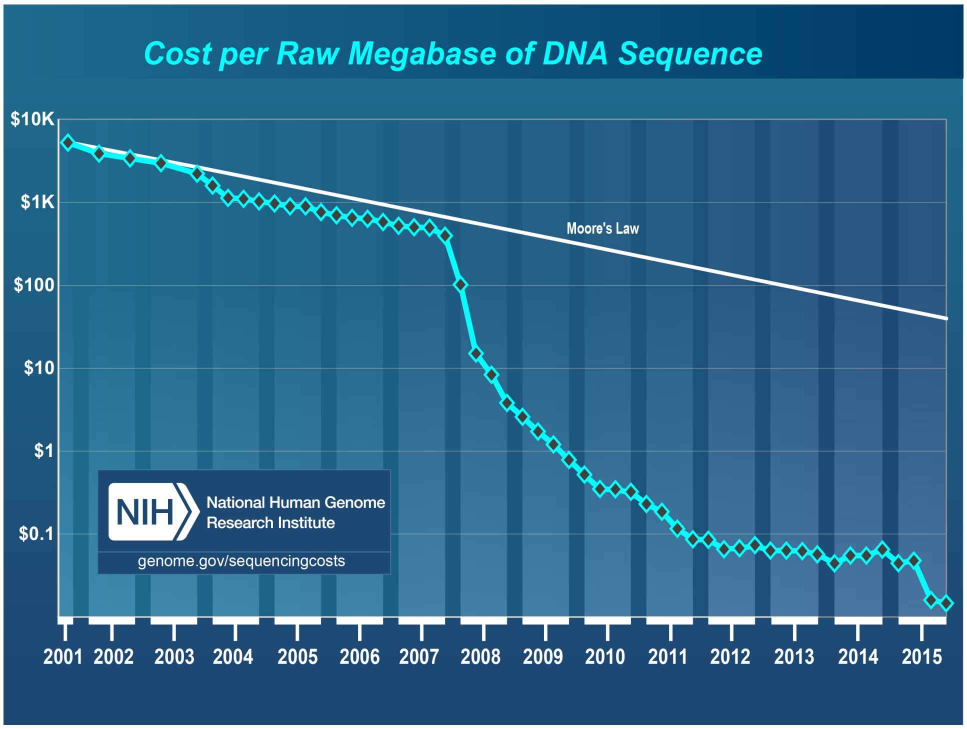

Figure D.1 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]

Appendix E

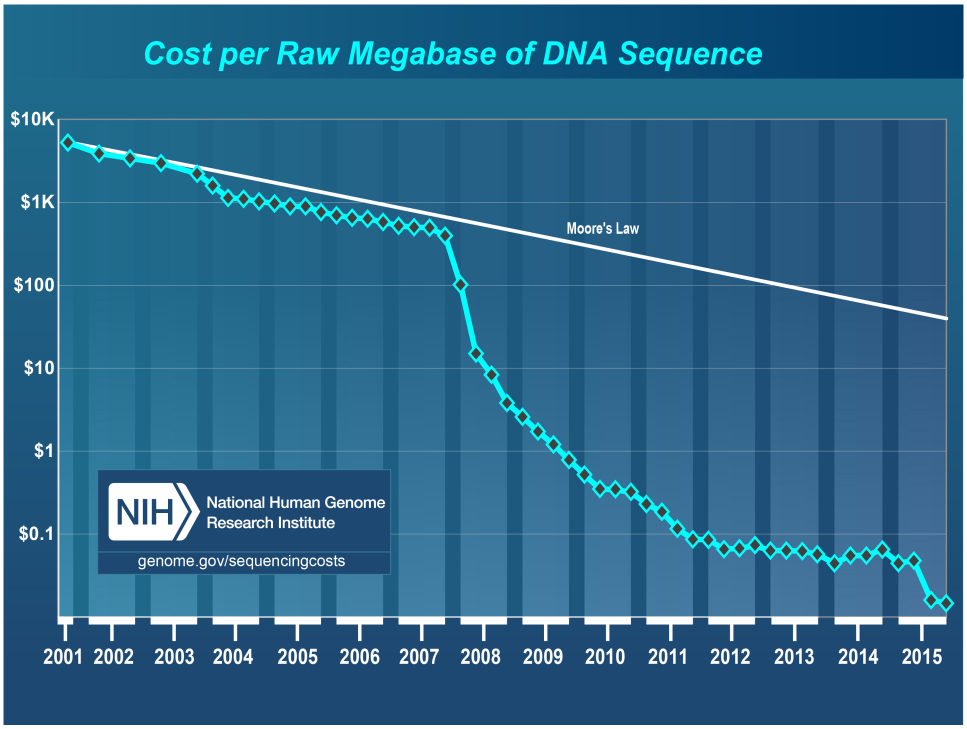

Figure E.1 Cost per raw megabase of DNA sequence from 2001 to 2015. Straight line - Moore's Law, blue curve - cost in US dollars, Y-axis scale is logarithmic. Graph reproduced from [2]