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Michael S. Waterman*, University of Southern California, Los Angeles, CA. *Reading DNA sequences: Twenty-first century technology with eighteenth century mathematics.*

With the discovery of the double helix in 1953, it became clear that determining DNA sequence was an important goal. The Sanger method was invented in 1975 and by 2001 refinements of that method allowed sequencing of the human genome. Today an exciting new generation of sequencing methods is rapidly increasing the speed of DNA sequencing. This lecture will consider the mathematical and computational challenges of sequencing DNA. (Received October 15, 2008)