

FRED SANGER

DOUBLE NOBEL LAUREATE

— A BIOGRAPHY —

GEORGE G. BROWNLEE



Fred Sanger Double Nobel Laureate A Biography

George G. Brownlee



Fred Sanger Double Nobel Laureate A Biography:

Fred Sanger - Double Nobel Laureate George G. Brownlee,2014-11-06 The first biography of Fred Sanger shedding light on his remarkable life and career and exploring his continuing legacy *Frederick Sanger* Joe S. Jeffers,2017-03-14 In this Brief Joe Jeffers uncovers the life and works of two time Nobel Laureate Frederick Sanger Following Sanger's early life to retirement Jeffers describes how this celebrated British biochemist became the first person to determine the amino acid sequence of a protein for which he was awarded the Nobel Prize in 1958 Highlighting Sanger's remarkable career Jeffers describes Sanger's later change in research direction to investigate deoxyribonucleic acids DNA work for which Sanger also received the Nobel Prize jointly with Paul Berg and Walter Gilbert in 1980 Joe Jeffers conducted twelve interviews with Sanger over the period of 1999-2009 and he has also spoken to more than 40 of Sanger's colleagues and family members This brief provides a rigorous yet concise view of Sanger on a personal and scientific level and is suitable for biochemists historians or the interested layperson **Fred Sanger - Double Nobel Laureate** George G. Brownlee,2020-04-02

Considered the father of genomics Fred Sanger 1918-2013 paved the way for the modern revolution in our understanding of biology His pioneering methods for sequencing proteins RNA and eventually DNA earned him two Nobel Prizes He remains one of only four scientists and the only British scientist ever to have achieved that distinction In this the first full biography of Fred Sanger to be published Brownlee traces Sanger's life from his birth in rural Gloucestershire to his retirement in 1983 from the Medical Research Council's Laboratory of Molecular Biology in Cambridge Along the way he highlights the remarkable extent of Sanger's scientific achievements and provides a real portrait of the modest man behind them Including an extensive transcript of a rare interview of Sanger by the author this biography also considers the wider legacy of Sanger's work including his impact on the Human Genome Project and beyond The Gene Siddhartha Mukherjee,2016-05-17 The 1 NEW YORK TIMES Bestseller The basis for the PBS Ken Burns Documentary The Gene An Intimate History Now includes an excerpt from Siddhartha Mukherjee's new book Song of the Cell From the Pulitzer Prize winning author of The Emperor of All Maladies a fascinating history of the gene and a magisterial account of how human minds have laboriously ingeniously picked apart what makes us tick Elle Sid Mukherjee has the uncanny ability to bring together science history and the future in a way that is understandable and riveting guiding us through both time and the mystery of life itself Ken Burns Dr Siddhartha Mukherjee dazzled readers with his Pulitzer Prize winning The Emperor of All Maladies in 2010 That achievement was evidently just a warm up for his virtuoso performance in The Gene An Intimate History in which he braids science history and memoir into an epic with all the range and biblical thunder of Paradise Lost The New York Times In this biography Mukherjee brings to life the quest to understand human heredity and its surprising influence on our lives personalities identities fates and choices Mukherjee expresses abstract intellectual ideas through emotional stories and swaddles his medical rigor with rhapsodic tenderness surprising vulnerability and occasional flashes of pure poetry The Washington Post

Throughout the story of Mukherjee's own family with its tragic and bewildering history of mental illness reminds us of the questions that hang over our ability to translate the science of genetics from the laboratory to the real world. In riveting and dramatic prose he describes the centuries of research and experimentation from Aristotle and Pythagoras to Mendel and Darwin from Boveri and Morgan to Crick, Watson and Franklin all the way through the revolutionary twenty-first century innovators who mapped the human genome. A fascinating and often sobering history of how humans came to understand the roles of genes in making us who we are and what our manipulation of those genes might mean for our future. Milwaukee Journal Sentinel. The Gene is the revelatory and magisterial history of a scientific idea coming to life, the most crucial science of our time intimately explained by a master. The Gene is a book we all should read. USA TODAY

Nobel Prizes And Notable Discoveries Erling Norrby, 2016-09-06 The present book discusses the prizes in physiology or medicine 1963-65. The 1963 prize recognized milestone discoveries in the field of neurosciences: the way electrical impulses are generated and spread in nerves. The impressive developments of insights into tantalizing brain functions like consciousness and memory are discussed in the perspective of prizes both before and after the 1963 prize. The prize in 1964 marked the advanced biochemical venture that led to a full understanding of the synthesis of cholesterol, a central molecule for providing flexibility of the membranes of the trillions of cells in our body. The importance of this molecule for the appearance of cardiovascular diseases and the possibilities to prevent them is presented in the light of other prizes earlier and later in this field. The 1965 prize recognized three impressive French intellectuals: Lwoff, Monod and Jacob. Their contributions allowed the full maturation of the initial phase of the emerging field of molecular biology. The comprehension of the information flow from DNA via RNA to proteins was the source of a revolution of life sciences and of medicine.

A History of Genomics across Species, Communities and Projects Miguel García-Sancho, James Lowe, 2023-03-31 This open access book offers a comprehensive overview of the history of genomics across three different species and four decades from the 1980s to the recent past. It takes an inclusive approach in order to capture not only the international initiatives to map and sequence the genomes of various organisms but also the work of smaller scale institutions engaged in the mapping and sequencing of yeast, human and pig DNA. In doing so, the authors expand the historiographical lens of genomics from a focus on large scale projects to other forms of organisation. They show how practices such as genome mapping, sequence assembly and annotation are as essential as DNA sequencing in the history of genomics and argue that existing depictions of genomics are too closely associated with the Human Genome Project. Exploring the use of genomic tools by biochemists, cell biologists and medical and agriculturally oriented geneticists, this book portrays the history of genomics as inseparably entangled with the day-to-day practices and objectives of these communities. The authors also uncover often forgotten actors such as the European Commission, a crucial funder and forger of collaborative networks undertaking genomic projects. In examining historical trajectories across species, communities and projects, the book provides new insights on genomics, its dramatic expansion.

during the late twentieth century and its developments in the twenty first century Offering the first extensive critical examination of the nature and historicity of reference genomes this book demonstrates how their affordances and limitations are shaped by the involvement or absence of particular communities in their production A Place in History Paul M. Wassarman,2020 A Place in History The Biography of John C Kendrew is the story of the influential 20th century scientific pioneer and winner of the 1962 Nobel Prize in chemistry **Industrial Biotechnology** Christoph Wittmann,James C. Liao,2017-04-10 The latest volume in the Advanced Biotechnology series provides an overview of the main production hosts and platform organisms used today as well as promising future cell factories in a two volume book Alongside describing tools for genetic and metabolic engineering for strain improvement the authors also impart topical information on computational tools safety aspects and industrial scale production Following an introduction to general concepts historical developments and future technologies the text goes on to cover multi purpose bacterial cell factories including those organisms that exploit anaerobic biosynthetic power Further chapters deal with microbes used for the production of high value natural compounds and those obtained from alternative raw material sources concluding with eukaryotic workhorses Landmark Experiments in Molecular Biology Michael Fry,2016-06-10 Landmark Experiments in Molecular Biology critically considers breakthrough experiments that have constituted major turning points in the birth and evolution of molecular biology These experiments laid the foundations to molecular biology by uncovering the major players in the machinery of inheritance and biological information handling such as DNA RNA ribosomes and proteins Landmark Experiments in Molecular Biology combines an historical survey of the development of ideas theories and profiles of leading scientists with detailed scientific and technical analysis Includes detailed analysis of classically designed and executed experiments Incorporates technical and scientific analysis along with historical background for a robust understanding of molecular biology discoveries Provides critical analysis of the history of molecular biology to inform the future of scientific discovery Examines the machinery of inheritance and biological information handling The Black Box of Biology Michel Morange,2020-06-09 In this masterful account a historian of science surveys the molecular biology revolution its origin and continuing impact Since the 1930s a molecular vision has been transforming biology Michel Morange provides an incisive and overarching history of this transformation from the early attempts to explain organisms by the structure of their chemical components to the birth and consolidation of genetics to the latest technologies and discoveries enabled by the new science of life Morange revisits A History of Molecular Biology and offers new insights from the past twenty years into his analysis The Black Box of Biology shows that what led to the incredible transformation of biology was not a simple accumulation of new results but the molecularization of a large part of biology In fact Morange argues the greatest biological achievements of the past few decades should still be understood within the molecular paradigm What has happened is not the displacement of molecular biology by other techniques and avenues of research but rather the fusion of molecular principles and concepts with those of other disciplines including

genetics physics structural chemistry and computational biology This has produced decisive changes including the discoveries of regulatory RNAs the development of massive scientific programs such as human genome sequencing and the emergence of synthetic biology systems biology and epigenetics Original persuasive and breathtaking in its scope The Black Box of Biology sets a new standard for the history of the ongoing molecular revolution

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