

Benoit B. Mandelbrot is Sterling Professor of Mathematical Sciences at Yale University and IBM Fellow Emeritus (Physics) at the IBM T.J. Watson Research Center.

Best known as the founder of fractal geometry which impacts mathematics, diverse sciences, and arts, and is best appreciated as being the first broad attempt to investigate quantitatively the ubiquitous notion of roughness.

Author of *Les objets fractals*, 1975, 1984, 1989 and 1995 (translated into Basque, Brazilian, Bulgarian, Chinese, Czech Italian, Portugese, Rumanian, Spanish) and *The Fractal Geometry of Nature*, 1982 (translated into Chinese, German, Japanese, Korean, Russian, and Spanish). His multi-volume *Selecta* began with *Fractals and Scaling in Finance: Discontinuity, Concentration, Risk*, 1997; *Fractales, hasard et finance*, 1997; *Multifractals and 1/f Noise: Wild Self-Affinity in Physics*, 1999, and *Gaussian Self-Affinity and Fractals*, 2002. With M.L. Frame, he authored *Fractals, Graphics, and Mathematics Education*, 2002.

Fellow, American Academy of Arts and Sciences, Member, U.S. National Academy of Sciences, Foreign Member, Norwegian Academy of Science, and Letters, and Membre Titulaire de l'Académie Européenne des Sciences, des Arts et des Lettres.

His awards include the 1985 *F. Barnard Medal for Meritorious Service to Science* ("Magna est Veritas"), granted by the U.S. National Academy of Sciences and Columbia University, the 1986 *Franklin Medal for Signal and Eminent Service in Science* from the Franklin Institute of Philadelphia, the 1988 *Charles Proteus Steinmetz Medal* from IEEE and Union College, the 1988 (first) *Science for Art Prize* from Moët-Hennessy-Louis Vuitton, the 1989 *Harvey Prize for Science and Technology* from the Technion in Haifa, the 1991 *Nevada Prize*, the 1993 *Wolf Prize for Physics*, the 1994 *Honda Prize*, the 1996 *Médaille de Vermeil de la Ville de Paris*, the 1999 *John Scott Award*, the 2000 *Lewis Fry Richardson Award* of the European Geophysical Society, the 2002 *Sven Berggren Priset* of the Lund Academy, the 2002 *William Procter Prize* of Sigma Xi, the Scientific Research Society of America, and the 2003 *Japan Prize for Science and Technology*.

He also received a *Distinguished Service Award for Outstanding Achievement* from the California Institute of Technology, and a *Humboldt Preis* from the Alexander von Humboldt Stiftung.

Graduate of the Paris Ecole Polytechnique; M.S. and Ae.E. in Aeronautics, California Institute of Technology; Docteur ès Sciences Mathématiques, University of Paris, Doctor of Science, *honoris causa*: Syracuse University, Laurentian University (Canada), Boston University, State University of New York, University of Guelph (Canada), University of Dallas, Union College, University of Buenos Aires (Argentina), Open University (UK), Athens University of Business and Commerce (Greece), University of St. Andrews (Scotland), Emory University. Doktor, *honoris causa*, Universität Bremen (Germany). Doctor of Humane Letters, *honoris causa*: Pace University. Doctor Philosophiae, *honoris causa*: University of Tel Aviv (Israel).

Positions before joining IBM were with the CNRS in Paris, Philips Electronics, M.I.T., Princeton Institute for Advanced Study, University of Geneva, University of Lille and Ecole Polytechnique. Institute Lecturer at M.I.T. Visiting Professor of Economics, later of Applied Mathematics, then of Mathematics and then of the Practice of Mathematics, at Harvard, of Engineering at Yale, of Physiology at the Albert Einstein College of Medicine, and of Mathematics at the University of Paris-Sud, Professeur de l'Académie des Sciences à l'École Polytechnique, Paris. Visited Cambridge, UK as G.C. Steward Visiting Fellow at Gonville and Caius College, Scott Lecturer at Cavendish Laboratory and Member at Isaac Newton Institute of Mathematical Sciences during a special program on fractals.

Mandelbrot had no formal teacher but his early work was strongly influenced by Paul Levy, Norbert Wiener and John von Neumann. He seeks a measure of order in physical, mathematical or social phenomena that are characterized by abundant data but extreme sample variability. The surprising esthetic value of many of his discoveries and their unexpected usefulness in teaching have made him an eloquent spokesman for "the unity of knowing and feeling."