

MAURIZIO BRUNORI

SHORT CV:

Born May 8, 1937, Rome, Italy. M.D., Degree in Medicine, University of Rome, 1961; Post-doctoral fellow at the Max Planck Institute, Goettingen, 1966 and at the University of Illinois, Urbana, 1968. Professor of Molecular Biology, University of Camerino, 1972-1974 and from 1974 Professor of Chemistry and Biochemistry, Faculty of Medicine, University of Rome La Sapienza.

Director, Department of Biochemical Sciences, University of Rome (1998-2003); Member of EMBO and of the Scientific Advisory Committee of EMBL (1975-1981, 1994-2000); International Fogarty Scholar-in-Residence, National Institutes of Health (1986/1988/1990); President of the International Union of Pure and Applied Biophysics (IUPAB) (1990-1993); Scientific Director (1994-2001) and President (2003-2006) of the Institute Pasteur in Rome; President of the National Biotechnology Program, CNR (1997-2002); Member (1988) and Director (2001-2008) of the Interdisciplinary Center, Accademia Nazionale dei Lincei; Member of the Accademia Europea (1996-); Merit Award of the President of France (2002); Festschrift, Biophys. Chem. (2002); Fellow, US Biophysical Society (2006); Foreign Honorary Member, American Academy of Arts and Sciences (2006), President of the Euro Mediterranean Academies Network (2010-2016).

Brunori has been Academic administrator and than vice President of the Accademia Nazionale dei Lincei. Presently he is Emeritus Professor of Chemistry and Biochemistry, Sapienza University of Rome.

STATEMENT OF ACCOMPLISHMENTS:

Brunori's early work laid the foundation for current understanding of the mechanism of ligand binding and cooperative interactions in heme-proteins. His studies have provided important insights into protein evolution, including the discovery of the structural basis of physiological adaptation of oxygen carriers, the demonstration that the central exon of the myoglobin gene encodes for a functionally competent domain, and the hypothesis for the neuroprotective role of the recently discovered brain protein neuroglobin. Brunori published ground-breaking research on the control of mitochondrial respiration with the discovery of "pulsed-oxidase", the mechanism of H⁺ pumping and of oxidase inhibition by nitric oxide under pathophysiological conditions.

Over the last two decades Brunori has been a major contributor to the emerging fields of structural dynamics and time-resolved protein crystallography. Experiments at the ESRF have demonstrated the functional role of conformational changes of individual residues and internal protein cavities in controlling ligand migration pathways, as unveiled by picosec-to-microsec pictures of the 3D structure of myoglobin following ligand photodissociation. More recently he combined kinetics, mutagenesis and computer simulations in innovative ways to show how the native fold of an heteromorphous pair of nearly identical proteins is dictated by the residual structure of the denatured state, and to unveil the 3D structure of a misfolded intermediate populated by engineered circular permutation.

Brunori's research accomplishments and broad scientific knowledge have propelled him into a position of scientific leadership in Italy, where he has been a major intellectual and political force in promoting high-quality basic biological science.