

The Department of Chemical Engineering Presents:



HARRY B. GRAY

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ABSTRACT: Electron exchange with metal cofactors deeply buried in the interiors of redox enzymes is often quite slow. Researchers in the Gray group have succeeded in accelerating the delivery of electrons and holes to the buried active site of cytochrome P450 by tethering a photochemical redox sensitizer to P450 substrate analogs. This approach is now being exploited in studies of several other redox enzymes (e.g., nitric oxide synthase, catechol oxidase, amine oxidase).

Bio: *B.S., Western Kentucky College, 1957; Ph.D., Northwestern University, 1960; D.Sc.h.c., Northwestern University; University of Rochester; University of Chicago; University Paul Sabatier (France); Bowling Green State University; Columbia University, Goteborg University; University of Pennsylvania; Oberlin College; University of Arizona; Carleton University (Canada); University of South Carolina; University of Copenhagen, University of Edinburgh; Occidental College; Simon Fraser University; Carleton College; Fil.dr.h.c., Goteborg University; Bowling Green State University; Laurea h.c., University of Florence (Italy); D.L.h.c., Illinois Wesleyan University. Ph.D.h.c., Weizmann Institute of Science (Israel); Distinguished Professorships, Eastman Professor, Oxford University, 1997-98; Distinguished Professorship, University of Hong Kong, 2005; Visiting Professor of Inorganic Chemistry, Caltech, 1965; Professor of Chemistry, 1966-81; William R. Kenan Professor, 1976-81; Beckman Professor, 1981-. Chairman, Division of Chemistry and Chemical Engineering, 1978-84; Director, Beckman Institute, 1986-2001; Founding Director, 2001-.*

Gray has published over 900 research papers and 18 books. He has received the Ira Remsen Award (1979); the Edgar Fahs Smith Award (1984); the Bailar Medal (1984); the Centenary Medal (1985); the National Medal of Science from President Ronald Reagan (1986); the Pauling Medal (1986); the California Scientist of the Year Award (1988); the Gold Medal of the American Institute of Chemists (1990); the Waterford Award of the Scripps Research Institute (1991); the Linderstrøm-Lang Prize from Denmark (1992); the Gibbs Medal (1992); the Basolo Medal (1994); the Chandler Medal (1999); the Harvey Prize from the Technion (2000); the Nichols Medal (2003); the Wheland Medal (2003); the Dwyer Medal from Australia (2003); the National Academy of Sciences Award in Chemical Sciences (2003); the Benjamin Franklin Medal in Chemistry (2004); the Wolf Prize in Chemistry (2004); the City of Florence (Italy) Prize in Molecular Sciences (2006); the Welch Award in Chemistry (2009); the International Coordination Chemistry Award from Japan (2010); the Othmer Gold Medal (2013); the T. W. Richards Medal (2014); D.Sc.h.c., Simon Fraser University (2015); ACS-NY Section CME Leadership Award for Propelling Science (2017); D.Sc.h.c., Carleton College (2017); Alan MacDiarmid Medal, University of Pennsylvania (2017); Feynman Prize, Caltech (2018); F. A. Cotton Medal, Texas A&M University (2018); Frank H. Westheimer Prize, Harvard University (2018); six national awards from the American Chemical Society, including the Priestley Medal (1991); and 20 honorary doctorates. He is a member of the National Academy of Sciences; the American Academy of Arts and Sciences; the American Philosophical Society; a foreign member of the Royal Danish Academy of Sciences and Letters; the Royal Swedish Academy of Sciences; the Royal Society of Great Britain; and the Accademia Nazionale dei Lincei. He served on the Council of the National Academy of Sciences (1986-1989) and on the Governing Board of the National Research Council (1986-1989). He was President of the Society of Biological Inorganic Chemistry (2002-2004), Chairman of the Board of Trustees of the Gordon Research Conferences (2000), and Chairman of the Board of Directors of the Arnold and Mabel Beckman Foundation (2013-2015). He is Principal Investigator of the NSF CCI Solar Fuels Program and a Director of University Science Books.

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