

## Biographical Profile

**Ahmed Zewail** is the Linus Pauling Chair professor of chemistry and professor of physics at the California Institute of Technology (Caltech), and is currently the Director of the Moore Foundation's *Center for Physical Biology* at Caltech. He received his early education in Egypt and in the U.S. completed a Ph. D. from the University of Pennsylvania and a postdoctoral (IBM) fellowship at the University of California, Berkeley, before joining the faculty at Caltech. On April 27, 2009, President Barack Obama appointed him to the President's Council of Advisors of the White House, and in November of the same year, he was named the first United States Science Envoy to the Middle East.

Dr. Zewail was the sole recipient of the 1999 Nobel Prize for his pioneering developments in *femtoscience*, making possible observations of atomic motions during molecular transformations in femtosecond, a millionth of a billionth of a second. More recently, he and his group have developed the field of *4D electron microscopy* for the direct visualization of matter's behavior, from atoms to biological cells, in the four dimensions of *space* and *time*. A significant effort is also devoted to giving public lectures on science and on the promotion of education and partnership for world peace, and he continues to serve on national and international boards for academic, cultural, and world affairs.

For his contributions to science and public life he has garnered other honors from around the globe: Forty Honorary Degrees in the sciences, arts, philosophy, law, medicine, and humane letters; Orders of State and Merit; commemorative postage stamps; and more than 100 international awards, including the Albert Einstein World Award, Benjamin Franklin Medal, the Leonardo da Vinci Award, the King Faisal Prize, and the Priestley Medal. In his name, international prizes have been established, and the AZ foundation provides support for the dissemination of knowledge and for merit awards in arts and sciences. He is an elected member of academies and learned societies, including the American Philosophical Society, National Academy of Sciences, Royal Society of London, French Academy, Russian Academy, Chinese Academy, and the Swedish Academy.

## Biographical Profile

**Ahmed Zewail** is the Linus Pauling Chair professor of chemistry and professor of physics at the California Institute of Technology (Caltech). For ten years, he was the Director of the National Science Foundation's *Laboratory for Molecular Sciences* (LMS), and is currently the Director of the Moore Foundation's *Center for Physical Biology* at Caltech. He received his early education in Egypt and in the U.S. completed a Ph. D. from the University of Pennsylvania and a postdoctoral (IBM) fellowship at the University of California, Berkeley, before joining the faculty at Caltech.

Dr. Zewail was awarded the 1999 Nobel Prize for his pioneering developments in *femtoscience*, making possible observations of ephemeral molecular phenomena on the femtosecond ( $10^{-15}$  second) time scale of atomic motion. More recently, he and his group have developed the field of *4D electron microscopy* for the direct visualization of materials and biological behavior. In the four dimensions of *space* and *time*, both the structure and dynamics of nanomachines can be imaged, and the applications range from atoms to cells.

In California, Dr. Zewail resides with his wife Dema Faham, and he is a proud father of four children: Maha, Amani, Nabeel, and Hani; two of them have scholarly bonding to Caltech and Berkeley. Over the years he has mentored more than 300 members of his research school, and published more than 500 articles and treatises. His biography, "*Voyage through Time*" (and "*Age of Science*"), which has now been published in 17 languages and editions, offers an exposé of his life, science and world affairs until the receipt of the Nobel Prize.

For his contributions to science and for his public service, Dr. Zewail has garnered honors from around the globe. Forty Honorary Degrees in the sciences, arts, philosophy, law, medicine, and humane letters have been conferred on him, including those from Oxford University, Cambridge University, Peking University, École Normale Supérieure, University of Pennsylvania, and Alexandria University. He has been decorated with Orders of State and Merit, including the Order of the Grand Collar of the Nile, Egypt's highest state honor. Postage stamps have been issued in commemoration of his contributions to science and humanity. Among other honors, he has received the Albert Einstein World Award, Benjamin Franklin Medal, Leonardo da Vinci Award, Robert A. Welch Award, Wolf Prize, King Faisal Prize, Othmer Gold Medal, and the Priestley Gold Medal. In his name, international prizes have been established in Amsterdam, Cairo, Detroit, Trieste, and Washington (DC), and in Cairo the AZ Foundation is providing support for the dissemination of knowledge and for merit awards in arts and sciences.

Dr. Zewail serves on President Obama's Council of Advisors on Science and Technology, and also as the President's Science Envoy to the Middle East. He is an elected member of academies and learned societies, including the American Philosophical Society, National Academy of Sciences, Royal Society of London, French Academy, Russian Academy, Chinese Academy, and the Swedish Academy. Over the years, he has given public lectures on science and on the promotion of education and partnership for world peace, and continues to serve on national and international boards for academic, cultural, and world affairs.