

Nobel Laureates 2006

Physics

John C. Mather and George F. Smoot

"for their discovery of the blackbody form and anisotropy of the cosmic microwave background radiation"

Stockholm, Oct 03: Americans John C Mather and George F Smoot won the 2006 Nobel prize in physics on Tuesday for work that helped shed more light on the beginning of the universe and the origin of galaxies and stars. The scientists were awarded the prize for discovering the nature of "blackbody radiation," cosmic background radiation believed to stem from the so-called big bang when the universe was created, the Royal Swedish Academy of Sciences in Stockholm said. Their work was based on measurements done with the help of the NASA-launched cosmic background explorer satellite in 1989. They were able to observe the universe in its early stages about 380,000 years after it was born. Ripples in the light they detected also helped demonstrate how galaxies came together over time.



John C. Mather

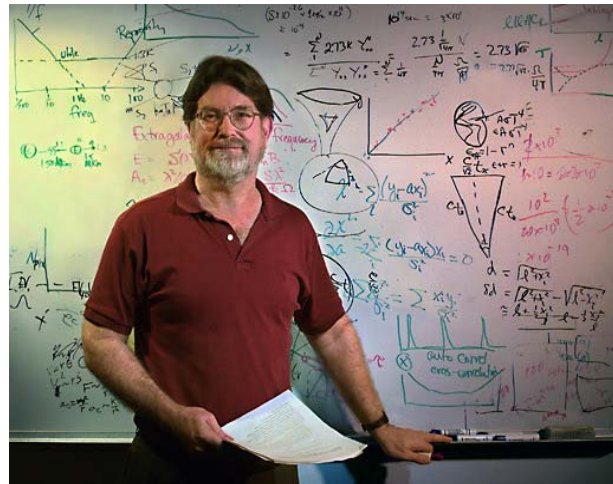
🏆 1/2 of the prize

USA

NASA Goddard Space flight Center

Greenbelt,MD,USA

b 1946



George F. Smoot

🏆 1/2 of the prize

USA

University of California Berkley ,CA ,USA

b 1945

Chemistry

Roger D. Kornberg

"for his studies of the molecular basis of eukaryotic transcription"

American **Roger D. Kornberg**, son of Nobel Prize winner Arthur Kornberg, was **awarded the Nobel Prize in Chemistry** today for his studies of how cells take information from genes to produce proteins.

His work has big importance for medicine, because disturbances in the process are involved in illnesses like cancer. Learning more about the process is a key to using stem cells to treat this kind of diseases.

Kornbergs work shed light on how information is taken from genes and converted to molecules called messenger RNA. These molecules shuttle the information to the cells' protein-making machinery. Proteins, in turn, serve as building blocks and workhorses of the cell, vital to its structure and functions.



Roger D Kornberg

USA

Stanford University

Stanford,CA, USA

b 1947

Physiology or Medicine

Andrew Z.Fire Craig C.Mello

“for their discovery of RNA interference-gene silencing by double stranded RNA”

This year's Nobel Prize in Physiology or Medicine is shared by Professor Andrew Z. Fire at Stanford University, California, USA, and Professor Craig C. Mello at the University of Massachusetts Medical School in Worcester, USA. They receive the prize for their discovery that double-stranded RNA triggers suppression of gene activity in a homology-dependent manner, a process named RNA interference (RNAi). Their discovery revealed a new mechanism for gene regulation, and the biochemical machinery involved plays a key role in many essential cellular processes. Double-stranded RNA synthesized within the cell can reduce or abolish gene activity by RNAi-like mechanisms. This control system for gene expression has proven to be important for both the development of an organism and the physiological functions of cells and tissues. Furthermore, RNAi protects against RNA virus infections, especially in plants and invertebrate animals, and secures genome stability by keeping mobile elements silent.



Andrew Z.Fire

🏆 1/2 of the prize

USA

Stanford University, School of Medicine

Stanford,CA ,USA

b 1959



Craig C.Mello

🏆 1/2 of the prize

USA

University of Massachusetts

Medical School Worcester,MA ,USA

b 1960

Economics

Edmund S. Phelps

"for his analysis of intertemporal tradeoffs in macroeconomic policy"

Edmund Phelps has deepened the understanding of the relation between short-run and long-run effects of economic policy. His contributions have had a decisive impact on economic research as well as policy.

Low unemployment and low inflation are central goals of stabilization policy. During the 1950s and 1960s the view of a stable tradeoff between inflation and unemployment was established, the so-called Phillips curve. According to this, the price for reduced unemployment was a one-time increase of the inflation rate.

Phelps challenged this view through a more fundamental analysis of the determination of wages and prices, taking into account problems of information in the economy. Individual agents have incomplete knowledge about the actions of others and must base their decisions on expectations. Phelps formulated the hypothesis of the expectations-augmented Phillips curve, according to which inflation depends on both unemployment and inflation expectations.



Edmund S. Phelps

USA

Columbia University

New York, NY, USA

B 1933