

THE NOBEL PRIZE

2020 NOBEL LAUREATES



NOBEL PRIZES 2020

Nobel Prizes are awarded annually from a fund bequeathed for that purpose by the Swedish inventor and industrialist Alfred Nobel.

In the will he drafted in 1895, Nobel instructed that most of his fortune be set aside as a fund for the awarding of five annual prizes “to those who, during the preceding year, shall have conferred the greatest benefit on mankind.” (Physics, Chemistry, Medicine, Literature, and Peace). The first distribution of the prizes took place on December 10, 1901, the fifth anniversary of Nobel's death.

An additional award, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, was established in 1968 by the Bank of Sweden and was first awarded in 1969.

After Nobel's death, the Nobel Foundation was set up to carry out the provisions of his will and to administer his funds. In his will, he had stipulated that four different institutions—three Swedish and one Norwegian—should award the prizes. From Stockholm, the Royal Swedish Academy of Sciences confers the prizes for physics, chemistry, and economics, the Karolinska Institute confers the prize for physiology or medicine, and the Swedish Academy confers the prize for literature.

The Norwegian Nobel Committee based in Oslo confers the prize for peace.

Each Nobel Prize consists of a gold medal, a diploma bearing a citation, and a sum of money, the amount of which depends on the income of the Nobel Foundation. Along with enormous prestige, the prize comes with a 10-million krona (\$1.1 million) cash award and a gold medal to be handed out at a ceremony in Oslo, Norway, on December 10, the anniversary of prize founder Alfred Nobel's death.

AWARDS 2020

Physics

One half to **Roger Penrose** and the other half jointly to **Reinhard Genzel** and **Andrea Ghez** for furthering the understanding of black holes. Penrose has been awarded the prize for the discovery “that black hole formation is a robust prediction of the general theory of relativity,” while Genzel and Ghez have been awarded the prize for the discovery of a “supermassive compact object at the centre of our galaxy.”

Chemistry

Awarded to **Emmanuelle Charpentier** and **Jennifer A. Doudna** “for the development of a method for genome editing.” Charpentier and Doudna discovered one of gene technology's sharpest tools: the CRISPR/Cas9 genetic scissors.

Medicine

American scientists **Harvey Alter** and **Charles Rice**, and **Michael Houghton** of the UK, have been recognised for their contributions to the discovery of a new virus that was the cause of a vast majority of chronic hepatitis cases, or cases of serious liver inflammation, in patients who required blood transfusion. This virus was eventually called Hepatitis C virus.

Literature

Awarded to American poet and essayist **Louise Glück** for her unmistakable poetic voice that with austere beauty makes individual existence universal.

Peace

Awarded to the **World Food Programme (WFP)** for its efforts to combat hunger and food insecurity around the globe.

Economics

Awarded to **Paul R. Milgrom** and **Robert B. Wilson** “for improvements to auction theory and inventions of new auction formats.”

