



PHOTO: DAN HANSSON/TT

Each year, King Carl XVI Gustaf personally presents a diploma to the winners during a stately ceremony in the Stockholm Concert Hall.

## NOBEL PRIZE:

# THE PRESTIGIOUS AWARD THAT CAPTURES THE WORLD'S ATTENTION

The Nobel Prize is considered the most prestigious award in the world. Prize-winning discoveries include X-rays, radioactivity and penicillin. Peace Laureates include Nelson Mandela and the 14th Dalai Lama. Nobel Laureates in Literature, including Gabriel García Márquez and Doris Lessing, have thrilled readers with works such as *One Hundred Years of Solitude* and *The Grass is Singing*.

Every year in early October, the world turns its gaze towards Sweden and Norway as the Nobel Laureates are announced in Stockholm and Oslo. Millions of people visit the website of the Nobel Foundation during this time.

The Nobel Prize has been awarded to people and organisations every year since 1901 (with a few exceptions such as during World War II) for achievements in physics, chemistry, physiology or medicine, literature and peace.

Nobel Day is 10 December. For the prize winners, it is the crowning point of a week of speeches, conferences and receptions.

At the Nobel Prize Award Ceremony in Stockholm on that day, the Laureates in Physics, Chemistry, Physiology or Medicine, and Literature receive a medal from the King of Sweden, as well as a diploma and a cash award. The ceremony is followed by a gala banquet. The Nobel Peace Prize is awarded in Oslo the same day.

### Prize in Economic Sciences

In 1968, Sweden's central bank (*Sveriges Riksbank*) established the Prize in Economic Sciences in Memory of Alfred Nobel. The prize is based on a donation received by the Nobel Foundation in 1968 from the central bank to mark the bank's 300th anniversary. The Prize in Economic Sciences is awarded by the Royal Swedish Academy of Sciences, following the same principles as the Nobel Prizes.

**DID YOU KNOW?****48 WOMEN**

The Nobel Prize and the Prize in Economic Sciences have been awarded to women 49 times from 1901 to 2016. One woman, Marie Curie, has been honoured twice, receiving the 1903 Nobel Prize in Physics and the 1911 Nobel Prize in Chemistry. This means a total of 48 women have received Nobel Prizes to date:

16 have received the Peace Prize, 14 the Prize in Literature, 12 in Physiology/Medicine, 4 in Chemistry (including Curie), 2 in Physics (including Curie) and 1 in Economic Sciences.

**90 YEARS OLD**

The oldest Laureate to date is Leonid Hurwicz, who was 90 when he was awarded the Prize in Economic Sciences in 2007.

**17 YEARS OLD**

The youngest Laureate to date is Malala Yousafzai, who was 17 when she was awarded the Peace Prize in 2014.

**TWO HAVE DECLINED**

Two Nobel Laureates have declined the Nobel Prize. Jean-Paul Sartre, awarded the 1964 Nobel Prize in Literature, declined the award because he had consistently declined all official honours.

Lê Đức Thọ was awarded the 1973 Nobel Peace Prize jointly with US Secretary of State Henry Kissinger for negotiating the Vietnam peace agreement. Lê Đức Thọ said he was not in a position to accept the Nobel Peace Prize, due to the situation in Vietnam.

**FOUR FORCED TO DECLINE**

Four Nobel Laureates have been forced by authorities to decline the Nobel Prize. Adolf Hitler forbade three German Laureates – Richard Kuhn (Chemistry), Adolf Butenandt (Chemistry) and Gerhard Domagk (Physiology/Medicine) – from accepting their prizes. The Nazi regime banned all Germans from accepting Nobel Prizes after the 1935 Nobel Peace Prize was awarded to Carl von Ossietzky, a German writer who publicly opposed Hitler and Nazism. The three later received their awards, but not the prize money.

Boris Pasternak, the 1958 Nobel Laureate in Literature, initially accepted the prize but was later coerced into declining by Soviet authorities.

**► Legacy of Alfred Nobel**

The Nobel Prize is the legacy of Sweden's Alfred Nobel (1833–1896). Prizes are awarded to 'those who, during the preceding year, shall have conferred the greatest benefit on mankind.' When he signed his last will in 1895, Nobel declared that the bulk of his estate should be converted into a fund and invested in safe securities. The four institutions in Sweden and Norway (the two countries were united between 1814 and 1905) conferring the prizes were to be the Swedish Academy of Sciences, Karolinska Institutet in Stockholm, the Academy in Stockholm and a committee of five people to be elected by the Norwegian parliament (*Stortinget*).

**The Nobel Foundation**

In 1900, the four institutions awarding the prizes agreed to create the Nobel Foundation, a private institution based on Alfred Nobel's will. The Nobel Foundation would administer Nobel's estate, totalling SEK 31 million, make public announcements and arrange the prize ceremonies. The total amount awarded each year is based on the most recent return on investment. The capital is currently worth just over SEK 4 billion, almost double the value of the original estate when adjusted for inflation.

The Nobel Prize in each category is currently worth SEK 8 million. There can be

up to three recipients for each prize, who share the sum between them.

**Organisations affiliated with the prize**

The Nobel Prize is affiliated with several organisations and institutions entrusted with different tasks related to the prize. The Nobel Foundation Rights Association was established in 1999 to provide information through a variety of media about the Nobel Laureates and their achievements.

This non-profit association serves as an umbrella organisation for four other entities:

- Nobel Media AB, which develops and manages programmes, productions and media rights of the Nobel Prize within the areas of digital and broadcast media, publishing as well as events.
- The Nobel Museum AB, housed in the Old Stock Exchange Building (*Börshuset*) in Stockholm's Old Town, creates interest and spreads knowledge around the natural sciences and culture.
- The Nobel Peace Center, at Rådhusplassen in Oslo, Norway, a showcase which presents the Nobel Peace Prize and the work of the Nobel Peace Prize Laureates.
- The Nobel Prize Education Fund, which supports educational outreach focused on the achievements of Nobel Laureates. ■

**THE FATHER OF DYNAMITE**

Alfred Nobel was a chemist, engineer, inventor and entrepreneur. He was born on 21 October 1833 in Stockholm, and died on 10 December 1896 in San Remo, Italy. He was devoted to the study of explosives, and his inventions include a blasting cap, dynamite and smokeless gunpowder. Nobel became famous across the world when the St. Gotthard Tunnel in the Swiss Alps was completed in 1881 and dynamite was used for the first time on a large scale.

At the time of his death, Nobel held 355 patents in different countries. There were Nobel companies in more than 20 countries, with explosives of all kinds being manufactured under his patents in around 90 factories worldwide. Nobel lived and worked in many countries, including Sweden, Russia, France, the United Kingdom, Germany and Italy. He spoke five languages, had a passionate interest in literature, and wrote poetry

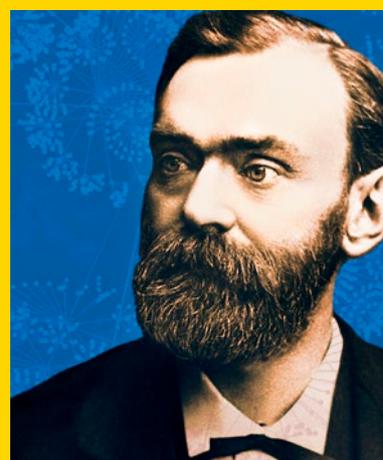


PHOTO: NOBEL MUSEUM

Alfred Nobel.

and drama. He could never have imagined how important his prize would become, or how much media attention future Nobel Laureates would attract. ■

## THE NOBEL PRIZE-AWARDING INSTITUTIONS

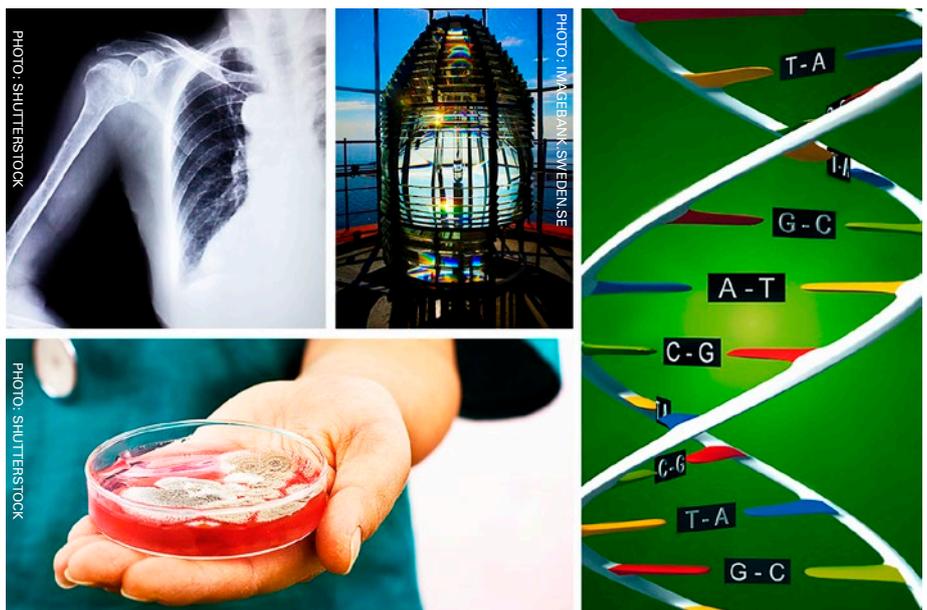
Four institutions select the Nobel Laureates:

**The Royal Swedish Academy of Sciences** (Nobel Prize in Physics, Nobel Prize in Chemistry and Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel). Founded in 1739 as an independent organisation, it aims to promote the sciences and enhance their influence in society. It currently has around 450 Swedish and 175 foreign members.

**The Swedish Academy** (Nobel Prize in Literature). Founded in 1786, it consists of 18 Swedes, all elected for life.

**The Nobel Assembly at Karolinska Institutet** (Nobel Prize in Physiology or Medicine). Dating from 1977 in its current form, the assembly consists of 50 professors at Karolinska Institutet.

**The Norwegian Nobel Committee** (Nobel Peace Prize). Founded in 1897, its five members are appointed by the Norwegian Parliament.



Prize-winning discoveries (clockwise from left): X-rays; AGA lighthouse, a type of automatic lighthouse that runs on acetylene gas; the molecular structure of DNA – the double helix; penicillin.

## A HISTORY OF CULTURE AND SCIENCE

Between 1901, when the first Nobel Prize was awarded, and 2016, a total of 911 Nobel Prizes have been awarded to individuals and organisations. Together, they represent a major contribution to the cultural and scientific history of the world.

There have been 885 prizes awarded to individuals and 26 to organisations. Only a few recipients have been honoured more than once, which means that a total of 881 individuals and 23 unique organisations have received prizes to date.

The first Nobel Prize in Physics, in 1901, went to Wilhelm Conrad Röntgen for his discovery of X-rays, used every day by health care providers around the world.

In 1903, Marie Curie became the first female Laureate when she was named a joint winner of the Nobel Prize in Physics for her research into radioactivity. She received her second prize in 1911 – this time in chemistry – for isolating and studying the new element radium.

In 1905, Austrian baroness and author Bertha von Suttner became the first woman to win the Nobel Peace Prize, in recognition of her work with the pacifist movements in Germany and Austria. She was also widely seen as inspiring Alfred Nobel, with whom she corresponded, to create the Peace Prize.

In 1912, Swedish inventor and industrialist Gustaf Dalén won the Nobel Prize in

Physics for his contributions to lighthouse technology. In the early 1900s, he invented the AGA lighthouse, a type of automatic lighthouse that ran on acetylene gas. The gas supply was controlled by a sun valve that shut off the gas in daylight, and a revolving light apparatus that allowed the beacon to flash by switching the gas off and on at brief, regular intervals. The two innovations made it possible to reduce gas consumption by 90 per cent compared with earlier constructions.

In the autumn of 1945, the Nobel Assembly of professors at Karolinska Institutet gathered to select a Nobel Laureate in Physiology or Medicine. They chose three Laureates, including Alexander Fleming, for their discovery of penicillin, which saved millions of lives in the second half of the 20th century.

In 2016, the Nobel Peace Prize was awarded to Colombian President Juan Manuel Santos for his efforts to put an end to his country's more than 50-year-long civil war. The war has cost the lives of at least 220,000 Colombians and displaced close to six million people.



Around 1,300 guests are invited each year to the grand banquet.

## THE BANQUET OF BANQUETS

The Nobel Banquet is a magnificent party held in the Blue Hall at Stockholm City Hall. The preparations are meticulous. Hundreds of cooks, waiters and attendants ensure that everything runs smoothly. Some 1,300 guests are invited, with each Laureate entitled to bring 14 guests beside their spouses.

Sweden's royal family is always present, as are the prime minister and other members of the government. The Nobel family is always represented. The remainder of the guest list should reflect the cultural and scientific community of Sweden and the world.

**2016 NOBEL PRIZES**

(Countries denote place of birth.)

**Chemistry**

Jean-Pierre Sauvage, France;  
Sir J. Fraser Stoddart, USA;  
Bernard L. Feringa, the Netherlands.  
'For the design and synthesis of  
molecular machines.'

**Literature**

Bob Dylan, USA  
'For having created new poetic expres-  
sions within the great American song  
tradition.'



PHOTO: CHRIS PIZZELO/TT

Bob Dylan.

**Peace**

Juan Manuel Santos, Colombia  
'For his resolute efforts to bring the  
country's more than 50-year-long civil  
war to an end.'

**Physics**

One half awarded to David J. Thouless,  
UK;  
the other half jointly to F. Duncan M.  
Haldane and J. Michael Kosterlitz, UK.  
'For theoretical discoveries of topologi-  
cal phase transitions and topological  
phases of matter.'

**Physiology or Medicine**

Yoshinori Ohsumi, Japan  
'For his discoveries of mechanisms for  
autophagy.'

**The Prize in Economic Sciences in  
Memory of Alfred Nobel**

Oliver Hart, UK;  
Bengt Holmström, Finland.  
'For their contributions to contract  
theory.'

SEK 1 (Swedish krona) =  
EUR 0.10, USD 0.11



► Previous Nobel Peace Prize Laureates in-  
clude Martin Luther King (1964), Mother  
Teresa (1979) and Barack Obama (2009).  
Nobel Laureates in Literature include  
Ernest Hemingway (1954), Toni Morrison

(1993), Dario Fo (1997) and Mario Vargas  
Llosa (2010). The oldest Laureate in litera-  
ture was Doris Lessing, who won the prize  
in 2007 at the age of 87. ■

**THE NOBEL PRIZE CALENDAR**

The Nobel Prize Award Ceremony in Stockholm is held on  
10 December, the anniversary of Alfred Nobel's death. On the  
same day, the Nobel Peace Prize is awarded in Oslo, Norway.

Several other activities take place the same  
week, with receptions and dinners hosted by  
the institutions awarding prizes, the Nobel  
Foundation and the Swedish Royal Family.  
The Laureates deliver lectures and talk about  
their work, with panel discussions and other  
public appearances usually arranged.

Traditionally, the Laureates and their  
spouses sit with the Royal Family at the

Nobel Banquet. They are also invited to a  
more intimate dinner at the Royal Palace,  
where they meet the Royal Family again.  
The visit to the Nobel Foundation is a  
great symbolic event.

The Laureates receive a document con-  
firming the prize amount and sign their  
names in a guestbook, thereby joining  
hundreds of famous predecessors. ■

**NOBEL WEEK IN STOCKHOLM****5 December**

The Laureates (except for the Nobel Peace  
Laureate) arrive in Stockholm.

**6–8 December**

The Laureates deliver their lectures. The  
institutions awarding the prizes arrange  
press conferences, receptions and dinners.

**8 December**

A Nobel Prize Concert in honour of the  
Laureates is held at the Stockholm  
Concert Hall.

**10 December**

The Nobel Prize Award Ceremony is held  
in the Stockholm Concert Hall, where the  
King of Sweden presents each Laureate  
with a Nobel Prize Medal and a Nobel Prize  
Diploma. A televised banquet is then held  
at Stockholm City Hall.

**11 December**

The festivities conclude  
with dinner at the Royal  
Palace.

**USEFUL LINKS**

[www.ki.se](http://www.ki.se) Karolinska Institutet

[www.kva.se](http://www.kva.se) The Royal Swedish Academy of Sciences

[www.nobelpeacecenter.org](http://www.nobelpeacecenter.org) Nobel Peace Center

[www.nobelpeaceprize.org](http://www.nobelpeaceprize.org) The Norwegian Nobel Committee

[www.nobelprize.org](http://www.nobelprize.org) The official website of the Nobel Prize

[www.svenskaakademien.se](http://www.svenskaakademien.se) The Swedish Academy

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