

## The Nobel Prizes - 2016

Thusitha Malalasekara



On December 10th the Nobel laureates received the Nobel Medal, Nobel Diploma and a document confirming the Nobel Prize amount from King Carl XVI Gusaf of Sweden: The Nobel Peace Prize Laureate received his prize from the Chairman of the Norwegian Nobel Committee in the presence of King Harold (V) of Norway

These Nobel Prizes were established by Alfred Nobel by signing his last will and testament to set aside the bulk of his estate, on 27th November 1895 at the Swedish Norwegian Club in Paris. His request was to make these awards to the most distinguished scientists in the fields of Chemistry, Physics, Physiology or Medicine, Literature and Peace, without any kind of discrimination.

### Chemistry

Jean-Pierre Sauvage (France), Sir J.Fraser Stoddart (British-American) and Bernard Lucas Feringa (Dutch) were the three chemists



Jean-Pierre Sauvage

In the year 2001 the great grand nephew of Alfred Nobel requested the Bank of Sweden to award a Nobel Memorial Prize for Economics. Since then Nobel Prizes are awarded for Chemistry, Physics, Physiology or Medicine, Literature, Peace and Economics. Summarized below is an introduction to the 2016 Nobel Award Winners.



Bernard L.Feringa

who were awarded the 2016 Nobel Prize for Chemistry. They won this award for the design and synthesis of molecular machines. These three chemists had made molecular knots, shuttles, rotors, chains, pumps, axles, switches, memory devices and also a nano car. All these products are at the scales of molecules. Nanoscale machines including, what were



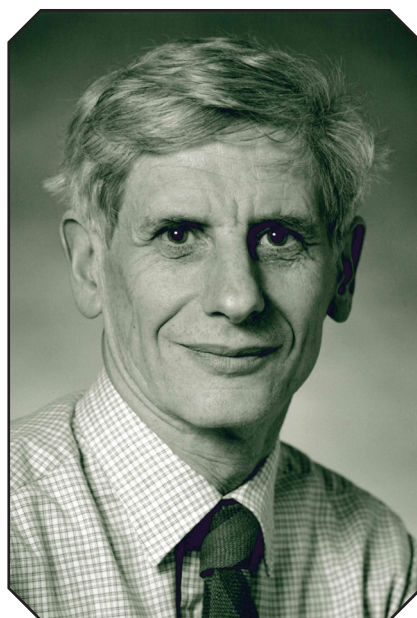
discussed here are yet to find applications, but the researchers say that their future use could range from delivering drugs to computer memory.

### Jean-Pierre Sauvage

He was born on an 21st October, 1994 in Paris, France and presently working as a coordinating chemist at Strasbourg University in France. Sauvage earned his PhD from the University of Louis Pasteur. His scientific work was mainly focussed on creating molecules that can mimic the functions of machines. He is a member of the French Academy of Science since 1997.

### Sir J.Fraser Stoddart

Sir James Fraser Stoddart who is a British-American born on 24th May 1942 in Edinburgh in UK, and is the professor of Chemistry in the Northwestern University in United States. He is a specialist in the areas of supramolecular chemistry and nanotechnology. University of Edinburgh has awarded the Bachelor of Science degree in 1964 to Stoddart,



**David James Thouless**

followed by Doctor of Philosophy degree in 1967. Sir Stoddart has won number of awards during his career and includes Albert Einstein Award for Science (2007) and Arthur C.Cope Award of the American Chemical Society (2008).

### Bernard L.Feringa

Bernard Lucas Feringa is affiliated to University of Groningen in the

Netherlands and is a synthetic organic chemist specializing in molecular nanotechnology and homogeneous catalysts. Born on 18th May 1951, in Berger-Compascuum in the Netherlands, has received the MSc degree (1974) and Ph.D (1978) from University of Groningen. He has also served as an editorial member of several scientific journals. Feringa was elected as a Fellow of the Royal Society of Chemistry in 2004 and won the Arthur. C.Cope Award from American Chemical Society in 2015.

### Physics

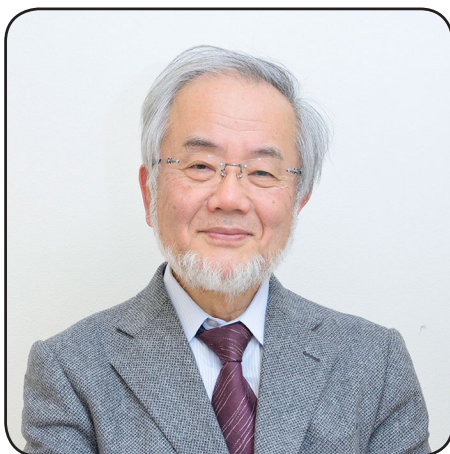
2016-Nobel Prize for Physics was also awarded to three physicists but it was not divided equally among them. David J.Thouless received half of the prize while the other half was shared between F.Duncan M.Haldane and J.Michel Kosterlitz. The award was presented for the theoretical discoveries of topological phase transitions and topological phases of matter.

### David James Thouless

Is a British condensed matter



**F.Duncan M.Haldane**



**Yoshinori Ohsumi**

physicist. He was born on 21st September 1934 in Bearsden in the U.K. Before the Nobel award he had won the Wolf Prize in 1970 for his scientific discoveries. He is a Bachelor of Arts degree holder from Trinity Hall, Cambridge, and received his Ph.D from Cornell University in USA. Presently he is working at University of Washington as the Professor of Physics. He has also been the Professor of Physics and Mathematics at the University of Birmingham and at Yale University in USA.

**F.Duncan M.Haldane**

Duncan Haldane is the Professor of Physics at the Princeton



**J.Michel Kosterlitz**



**Bengt Holmstrom**

University in USA. He is also a British American born on 11th September 1951 in London. Haldane worked as a Physicist at Institute Lane-Langevin in France, where he conducted a number of researches on condensed matter physics. Haldane obtained his Bachelor of Arts and Ph.D from Christ College, Cambridge. He is a member of number of Scientific professional associations and also a member of the American Association for the Advancement of Science.

**J.Michel Kosterlitz**

Michel Kosterlitz is a British American physicist presently attached to Brown University in USA as a Professor of Physics. He was born on 22nd June 1942 in Aberdeen, USA and obtained his Bachelor of Arts and Master of Arts degrees from Gonville and Calves College. He obtained his Ph.D from Brasenose College, Oxford in 1969. He and his other two co-Nobel award winners explained how certain kinds of matter transit from ordinary matter to exotic matter. He has also won several British and American awards before the Nobel award.



**Oliver Simon D'Ary Hart**

**Physiology or Medicine**

**Yoshinori Ohsumi**

The 2016 Nobel award for Physiology or Medicine was awarded to a Japanese professor working at Tokyo Institute of Technology, for his discoveries of mechanisms for Autophagy. Autophagy is the process that cells



**Juan Manuel Santos**

use to destroy and recycle cellular components. Born on 9th February 1945 at Fukuoka, Japan, Ohsumi obtained his BSc in 1951 and D.Sc in 1974, both from the University of Tokyo.

He has won several international and Japanese awards and prizes for his scientific work including the prestigious Kyoto prize in 2012.

**Economics**

Nobel Memorial Prize for Economic science which is funded by Sveriges Riksbank was awarded to two economists jointly. They are Oliver Hart and Bengt Holmstrom. The reason attributed to making this award is for their contributions to contract theory.

**Oliver Simon D'Ary Hart**

He is a British born American economist. He was born on 8th October 1948 in London UK. Presently he is the Professor of Economics at the Harvard University.

He earned his BA, in Mathematics

at Kings College Cambridge in 1969 and his MA in Economics from University of Warwick in 1972 and Ph.D from Princeton University in 1974.

**Bengt Holmstrom**

Bengt Holmstrom who was born on 18th April 1949 at Helsinki, Finland is presently attached to the Massachusetts Institute of Technology USA as a Professor of economics.

Bengt received his BSc in mathematics and Science from the University of Helsinki, Master of Science from Stanford University and Ph.D from the School of Business at Stanford.

Before winning the Nobel Prize



he has won several international awards, for his work.

**Literature**

The 2016 Nobel Prize for Literature was awarded to American Bob Dylan, a song writer, singer, actor and writer for having created new poetic experiences within the great American song tradition. Bob Dylan was born on 24th May 1941 at Duluth, Minnesota, USA. His most celebrated work dates from the 1960s.

**Peace**

The most prestigious Nobel award is the Peace Prize. The Nobel Peace Prize 2016 was awarded to the current President of Colombia Juan Manuel Santos, for his resolute efforts to bring the country's more than 50 year long civil war to an end.

Santos was born on 10th August, 1951 in Bogota, Columbia and is an economist by profession and a Journalist by trade.



**Bob Dylan**

**Thusitha Malalasekara**  
07777685639