

Prelim Bits 07-10-2018

Nobel Prize

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- The Nobel Prize is a set of six annual international awards by Swedish and Norwegian institutions.

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- The prizes are established by the will of Swedish inventor and industrialist Alfred Nobel.

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- The awards are given annually in recognition of academic, cultural, or scientific advances.

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- The prizes as established by his will are the Nobel Prize for Physics, the Nobel Prize for Chemistry, the Nobel Prize for Physiology or Medicine, the Nobel Prize for Literature, and the Nobel Prize for Peace.

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

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- Although not technically a Nobel Prize, it is identified with the award.

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- The winners of Economic Sciences are announced with the Nobel Prize recipients and it is presented at the Nobel Prize Award Ceremony.

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Nobel Prizes - 2018

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- Scientists Arthur Ashkin (USA), Gerard Mourou (USA) and Donna Strickland (Canada) won the 2018 **Nobel Prize for Physics**.

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- Strickland from Canada, becomes only the third woman to win a Nobel prize for physics.

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- They are awarded for breakthroughs in the field of lasers used for surgery as

well as scientific study.

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- **Nobel Prize in Chemistry 2018** is awarded in two parts.

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- One half of the prize is awarded to Frances H. Arnold for the directed evolution of enzymes.

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- In 1993, she conducted the first directed evolution of enzymes, which are proteins that catalyse chemical reactions.

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- The other half jointly to George P. Smith and Sir Gregory P. Winter for the phage display of peptides and antibodies.

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- In 1985, George Smith developed an elegant method known as phage display, where a bacteriophage (a virus that infects bacteria), can be used to evolve new proteins.

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- Nobel Peace Prize 2018 is awarded to Denis Mukwege from Republic of Congo and Nadia Murad from Iraq.

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- Denis Mukwege is a gynecologist helping victims of sexual violence in his country.

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- Nadia Murad, a Yazidi rights activist and survivor of sexual slavery by Islamic State and she was a witness who tells of the abuses perpetrated against herself and others.

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- Two immunologists, James Allison of the U.S. and Tasuku Honjo of Japan, won the **2018 Nobel Medicine Prize**.

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- They won for their work on a new approach to cancer treatment.

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- They figured out how to help the patient's own immune system tackle the cancer more quickly.

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- It contradicts with traditional forms of cancer treatment that directly target cancer cells.

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- For the first time in decades **no Nobel Prize for literature** will be given this year.

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- This is due to a scandal over sexual misconduct allegations against members of the board of the Swedish Academy that awards it.

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- The prize will be presented in Oslo on December 10, the anniversary of the death of Swedish industrialist Alfred Nobel.

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Turbidity Currents

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- Turbidity currents are fast-moving currents that sweep down submarine canyons, carrying sand and mud into the deep sea.
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- It is not just sediment-laden seawater flowing over the sea floor, it involves large-scale movements of the sea floor itself.
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- It was first identified in 1929 when a large earthquake triggered a violent current that travelled several hundred kilometres and damaged 12 trans-Atlantic communications cables.
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- This discovery could help ocean engineers avoid damage to pipelines, communications cables, and other sea floor structures.
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- Turbidity currents are still a threat today, as people place more and more cables, pipelines, and other structures on the sea floor.
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- It is also important to petroleum geologists because they leave behind layers of sediment that comprise some of the world's largest oil reserves.
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Source: The Hindu, BusinessLine

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