

Breakthrough Prize, 2025

Prelims - Current events of national and international importance| General Science.

Why in News?

Breakthrough Prize Foundation recently announced the winners for Breakthrough Prize, 2025.

- It is an **international award** recognizing outstanding achievements in life sciences, fundamental physics, and mathematics.
- It is also known as 'Oscars of Science'.
- **Established in** - 2013.
- **Established by** - Mark Zuckerberg and his wife Priscilla Chan, Sergey Brin, Anne Wojcicki, and Yuri and Julia Milner.
- **Reward** - \$3 million each in all categories.

Breakthrough Prize in Life Sciences

For Weight-loss drugs	<ul style="list-style-type: none"> • Drugs - <u>Ozempic and Wegovy</u>. • Awarded to - Daniel J. Drucker, Joel Habener, Jens Juul Holst, Lotte Bjerre Knudsen and Svetlana Mojsov. • Scientists discovered and characterised the GLP-1 hormone, which aided the creation of drugs treating diabetes and obesity.
Multiple Sclerosis treatment	<ul style="list-style-type: none"> • Multiple Sclerosis is an unpredictable chronic disease caused by the immune system attacking the protective sheath that covers nerve fibres of the central nervous system. • Awarded to - Alberto Ascherio and Stephen L. Hauser. • They identified the role of the B-cells of the immune system in Multiple Sclerosis (MS) and devised treatments targeted at the same. • The duo also established the Epstein-Barr virus infection as the leading cause of MS.
Gene-editing technologies	<ul style="list-style-type: none"> • Awarded to - David R Liu • Developing the base editing and prime editing technologies widely used to edit the DNA of living organisms. • They can edit the DNA without cutting its double helix, and rewrite entire stretches of defective DNA with a corrected version.

Breakthrough Prize in Mathematics

- **Awarded to** - Dennis Gaitsgory
- **Achievement** - Role in the proof of the geometric Langlands conjecture.

Langlands program is described as a broad research program spanning several fields of mathematics, which grew out of a series of conjectures proposing precise connections between seemingly disparate mathematical concepts.

Breakthrough Prize in Fundamental Physics

- **Awarded to** - 4 collaborations at the Large Hadron Collider (LHC) in European Organization for Nuclear Research (CERN) - ALICE, ATLAS, CMS and LHCb.
- The collaborations studied the Higgs boson to understand how they impart mass to fundamental particles.
- They also discovered **new types of particles** to understand the strong nuclear force, and tested fundamental theories by discovering new processes to understand why matter exists in the universe.

Reference

1. [The Indian Express | Breakthrough Prize 2025](#)
2. [Business Standard | Breakthrough Prize](#)

