Kavli Prize

Why in News?

Recently, eight scientists were awarded with **2024 Kavli Prize** for their contributions to **astrophysics, neuroscience, and nanoscience.**

- All eight scientists awarded the Prize this year are professors at leading American universities.

Kavli Medal

- The Kavli Medal, distinct from the Kavli Prize, is **awarded annually** for excellence in **environmental science and engineering.**
- It is open to **UK, Commonwealth, or Irish Republic** citizens or residents with at least three years of residency.
- The award **targets early career scientists within 15 years of their PhD,** excluding career breaks.
- Recipients are chosen by the Royal Society Council based on recommendations from the Joint Physical and Biological Sciences Awards Committee. Nominations remain valid for five years, after which candidates must wait a year before being re-nominated.

What is the Kavli Prize?

- **About:**
  - The Kavli Prize is an **international award** that recognizes **scientists** for their outstanding achievements in the fields of **astrophysics, nanoscience,** and **neuroscience.**
  - This prize, awarded **biennially,** was started in **2008.** It is named after Norwegian-American businessman and philanthropist **Fred Kavli**.
  - Awarded by the **Norwegian Academy of Science and Letters** in partnership with the **Kavli Foundation** and the **Norwegian Ministry of Education and Research.**
- **Comparison with** Nobel Prize:
  - The Kavli Prize is similar to the Nobel in the fields of astrophysics, neuroscience, and nanoscience.
  - The key difference is that the Nobel Prize is awarded for achievements made "**during the preceding year,"** while the Kavli Prize recognises achievements without the restriction of being made in the preceding year.
- **Winners 2024:**

Field	Winners	Contribution
Astrophysics	**David Charbonneau** of Harvard University, and **Sara Seager,** of the Massachusetts Institute of Technology.	- **Achievements:** Discoveries and characterisation of exoplanets and their atmospheres. - **Contributions**:

		Pioneered methods for detecting atomic species in planetary atmospheres and measuring
		thermal infrared emissions, crucial for identifying molecular fingerprints in planetary atmospheres
Nanoscience	**Robert Langer** of MIT, **Armand Paul Alivisatos** of the University of Chicago, and **Chad Mirkin** of Northwestern University	**Langer**: Nano-engineering for controlled drug delivery systems. **Alivisatos**: Development of semiconductor quantum dots for bio-imaging. **Mirkin**: Concept of spherical nucleic acids (SNAs) for applications in gene regulation and immunotherapy.
Neuroscience	**Nancy Kanwisher** (MIT), **Winrich Freiwald** (Rockefeller University), **Doris Tsao** (University of California, Berkeley)	Mapping brain **functions related to facial recognition using neuroimaging and neuronal recording techniques**, identifying brain centres and neural architectures involved in face processing.

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