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News: NASA's OSIRIS-Rex mission brings asteroid samples back to Earth

- Recently, OSIRIS–Rex, the NASA mission to collect asteroid samples returned to earth and landed back.

OSIRIS-Rex

Name OSIRIS-Rex is an acronym of the mission objectives, which are

- **Origins:** Return and analyze a pristine carbon-rich asteroid sample.
- **Spectral Interpretation:** Provide ground truth or direct observations for telescopic data of the entire asteroid population.
- **Resource Identification:** Map the chemistry and mineralogy of a primitive carbon-rich asteroid.
- **Security:** Measure the effect of sunlight on the orbit of a small asteroid, known as the **Yarkovsky effect—the slight push created when the asteroid absorbs sunlight and re-emits that energy as heat.**
- **Regolith Explorer:** Document the regolith (layer of loose, outer material) at the sampling site at scales down to the sub-centimeter
- OSIRIS-Rex was launched from Cape Canaveral, Florida on September 8, 2016.
- It **arrived at asteroid Bennu after a two-year journey** on 4th December 2018.

- The Bennu asteroid contains **high amount of carbon content**.
- OSIRIS-Rex has landed on Bennu and **has collected a sample of regolith (top soil) from a site named “Nightingale” and has departed from Bennu**. It will reach earth after its 2 year journey. Recently, on September 2023, **OSIRIS–Rex landed on earth safely**.
- The **OSIRIS-Rex mission is not the first to ever visit an asteroid and attempt a sample return** — Japan has done (**Hayabusa Mission**) it before and Europe (**Rosetta Mission**) has managed to land on a comet.