Bengaluru-born Ramya Anche to lead NASA's $20 million 'PUFFINS' ultraviolet space telescope mission

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News

Dr Ramya Manjunath Anche, assistant research professor at the University of Arizona's Steward Observatory, will lead – as Principal Investigator – the $20 million 'PUFFINS' SmallSat mission selected under NASA's Astrophysics Pioneers programme (reported 16–17 Oct 2026). PUFFINS = 'Polarimetry in the Ultraviolet to Find Features in INterStellar dust'. Its 10-inch (about 25 cm) ultraviolet telescope will measure the polarisation of light from about 70 stars to study interstellar dust grains smaller than 50 nanometres. It will fly in low-Earth orbit, with launch targeted for 2030. Indian partners: IUCAA (Pune) and IIA (Bengaluru).

Key facts

Leader	Dr Ramya Manjunath Anche – University of Arizona, Steward Observatory; grew up in Devanahalli near Bengaluru; enrolled at IIA in 2012 (PhD 2020); moved to the US in 2021
Mission	PUFFINS – SmallSat ultraviolet spectropolarimeter
Programme / cost	NASA Astrophysics Pioneers; $20 million
Science goal	Interstellar dust – its interaction with light and magnetic fields; star and planet formation

Launch	Target 2030; low-Earth orbit
Partners	McDonald Observatory (Texas), IUCAA Pune, IIA Bengaluru, Austrian and Korean institutes

Background

- NASA Pioneers programme: started in 2020; astrophysics missions under a $20 million cap using SmallSats, balloons and ISS payloads; lets early- and mid-career scientists lead a mission for the first time. Its 'Pandora' (exoplanets) launched in Jan 2026.
- Science: Earth's ozone layer absorbs most ultraviolet light, so UV astronomy must be done from space. Interstellar dust scatters, dims (extinction) and polarises starlight; UV spectropolarimetry has not flown in space for nearly three decades.
- NASA: founded in 1958. Hubble (1990, NASA–ESA) – ultraviolet and visible; James Webb (JWST, 2021, NASA–ESA–CSA) – infrared. India's 'AstroSat' (2015) – its first multi-wavelength space observatory, carrying the UVIT ultraviolet telescope.

Tamil Nadu link: the Indian Institute of Astrophysics (IIA, Bengaluru), where Ramya Anche studied (PhD, 2020), runs two observatories in Tamil Nadu – the 'Vainu Bappu Observatory' at Kavalur in the Javadhu Hills (Tirupattur district) and the 'Kodaikanal Solar Observatory' (1899) in Dindigul district. (No direct Tamil Nadu link of hers is verified.)

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