

Naming of the Martian Landforms

Prelims: Current events of national and international importance

Why in News?

A 3.5-billion-year-old crater on Mars will henceforth be known after M.S. Krishnan, the pioneering Indian geologist, proposed by Kerala-based researchers.

- **Approved by** - The International Astronomical Union (IAU).
- **New names** - Apart from 'Krishnan,' the IAU has also accepted several Kerala-based names for smaller landforms associated with the crater.
- These are 'Valiamala,' 'Thumba,' 'Bekal,' 'Varkala' and 'Periyar' for smaller craters and a vallis (valley).

General IAU Naming Rules

- The IAU adheres to several overarching principles for all planetary nomenclature.
- **Clarity and Uniqueness** - Names should be simple, clear, and unambiguous. Duplication of names across different bodies is discouraged.
- **Scientific Need** - Features are named only when they have special scientific interest and the name is useful to the scientific community for communication and mapping.
- **Size Limits** - Generally, official names are not given to features with the longest dimensions less than 100 meters.
- **International Basis** - Nomenclature should be international, with equitable selection of names from various ethnic groups, countries, and genders.
- **No Political/Military/Religious Significance** - Names with political, military, or religious significance are prohibited, except for political figures who lived before the 19th century.
- **No Living Persons** - Features may only be named for persons deceased for at least three years, and generally only for those of high and enduring

international standing.

- **Informal Names** - Mission teams often use informal names (nicknames) for small, temporary features (rocks, soil samples, etc.) for operational purposes, but the IAU does not officially recognize these.
- **Specific Martian Naming Themes** - For features that do meet the IAU criteria for official naming, specific themes are applied to different feature types on Mars:
 - **Large Craters (>60 km diameter)**- Named after deceased scientists who have made foundational contributions, or science-fiction authors of high and enduring international standing.
 - **Small Craters** - Named after small towns and villages of the world with populations of approximately 100,000 or less.
 - **Large Natural Features** - Mons (mountains), Patera (shallow craters), Planitia (plains), Planum (plateaus), Vallis (valleys), etc.
- Themes vary, but often draw from classical albedo features on early maps, or are associated with existing major names (e.g., the name for a large structural feature might be linked to a nearby named crater).

Reference

[The Hindu | Naming of Martian land forms](#)

