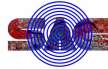
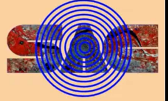


अंतरिक्ष उपयोग केंद्र (सैक) और  
विकास एवं शैक्षिक संचार यूनिट (डेकू)  
भारतीय अंतरिक्ष अनुसंधान संगठन, अहमदाबाद



Space Applications Centre (SAC) &  
Development & Educational Communication Unit (DECU)  
Indian Space Research Organisation, Ahmedabad



## Azadi Ka Amrit Mahotsav (AKAM) Celebration of 75<sup>th</sup> Anniversary of India's Independence

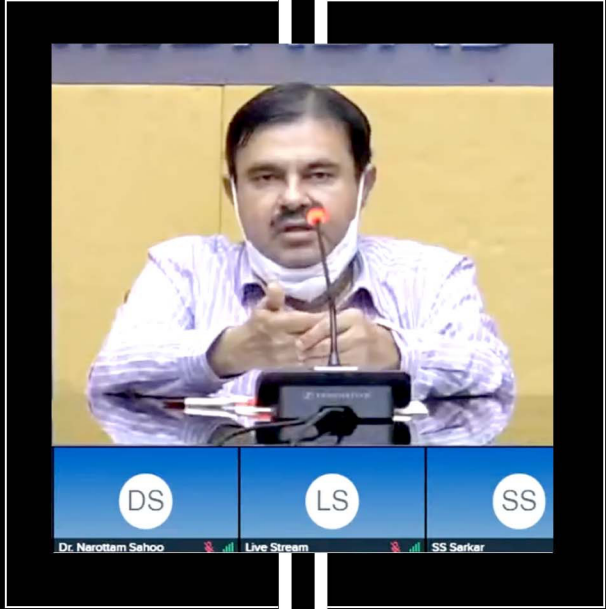
by  
Space Applications Centre (SAC), ISRO, Ahmedabad  
in Outreach Coordination with  
Gujarat Council on Science & Technology (GujCOST), Gandhinagar

**Popular Talks on  
Exploring our Neighborhood beyond Planet Earth**

*Program Schedule: Sep 17, 2021 at 10:30 – 12:30 hrs*

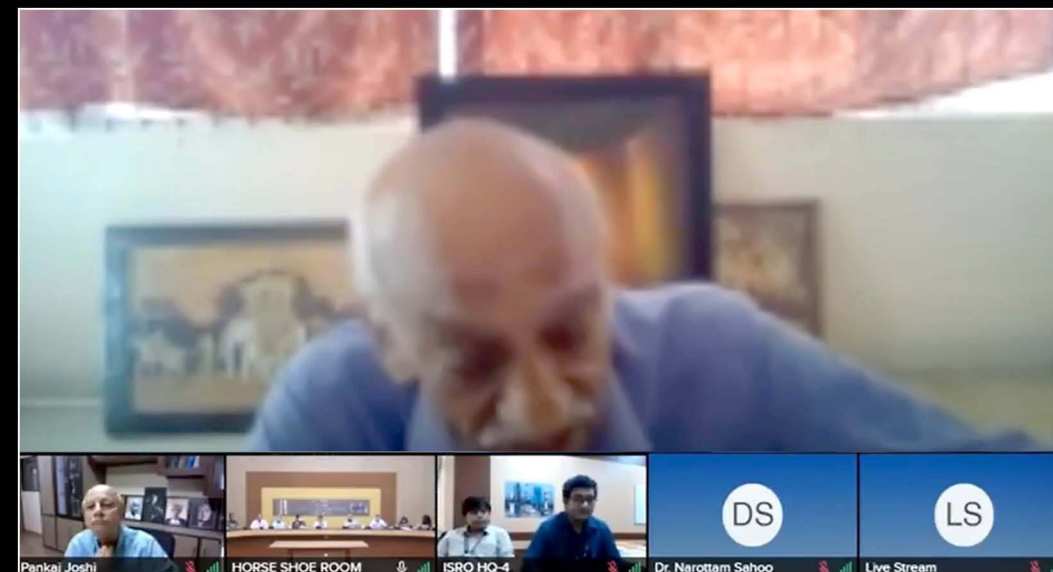












# Recent Frontier Developments in Space, Blackholes and Cosmology

Pankaj S Joshi

Sep 17, 2021

## Recent Developments

- \* Many Research Papers Now, from Top Academic Places including Cambridge, Perimeter, Princeton... on Formation of Visible Singularities in Gravitational Collapse
- \* The Indian Work well-cited, discussed, and found Intriguing and is Confirmed, Even as debates go on...
- \* In fact, Many people now ask: OK, let them both exist, but then,  
*What are the Observational Signatures, What shall we see out there in the Skies?*

How Eating Meat Contributes to Global Warming [page 62]

## SCIENTIFIC AMERICAN

Nanomedicine  
Revolutionizing the Fight against Disease  
February 2021  
www.SAMmag.com

Black holes may have even stronger siblings that violate known laws of physics

## NAKED SINGULARITIES

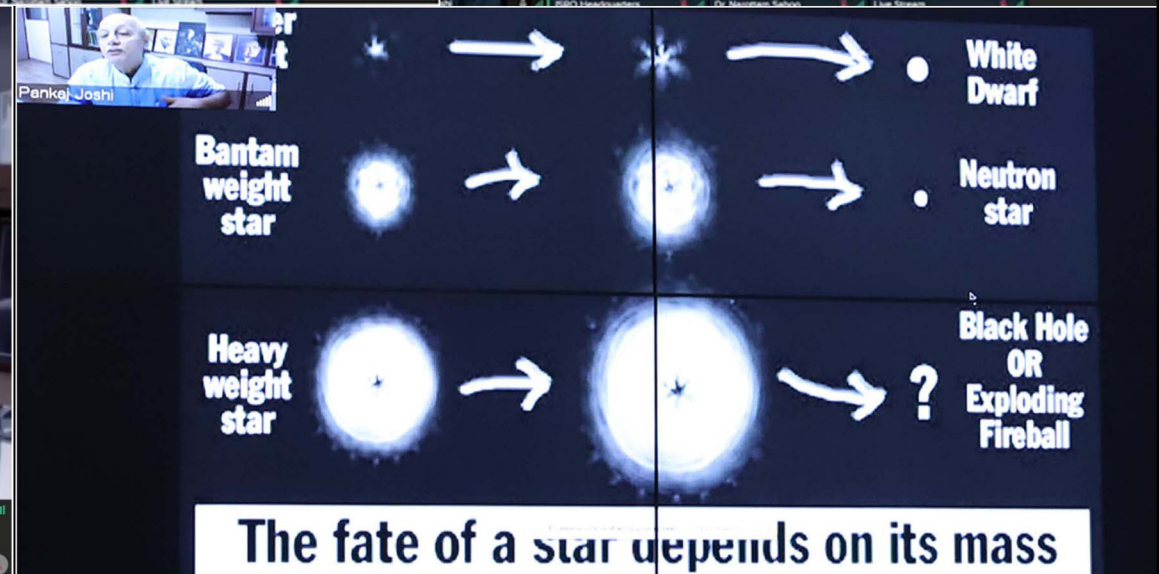
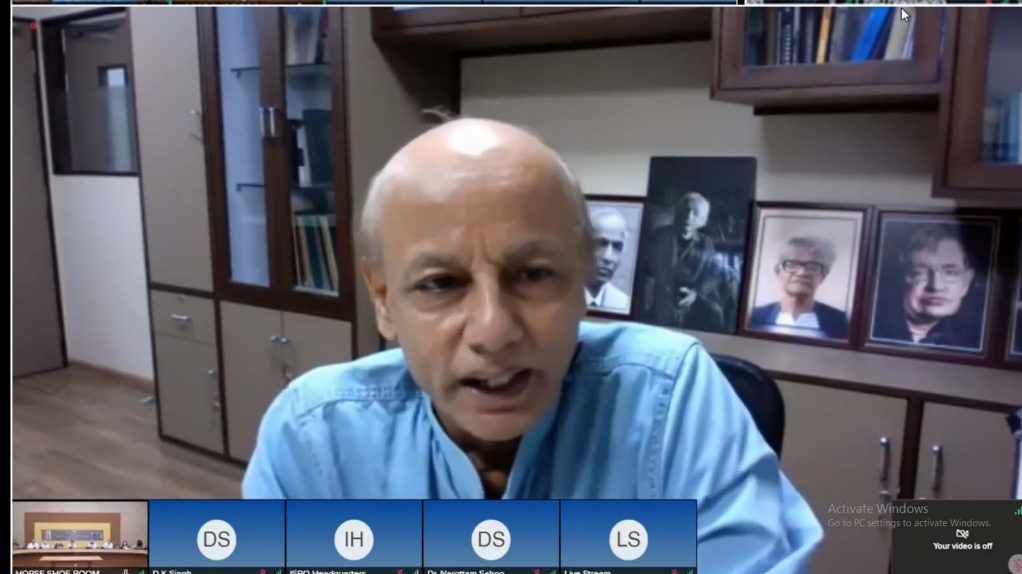
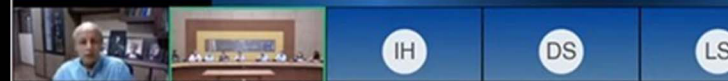
Fold the Brain  
How Forces That Shape It Link to Autism and More

Submarine Lava  
The Mysterious, Red-Hot Origins of the Ocean Floor

Electric Rockets  
Efficient Travel to Deep Space



ISSN 0007-4868





## ASTROSAT

- ✦ Scanning sky monitor
  - + Scan large portion of sky away from sun to look at any transient behavior in X ray source
  - + Indicator for other instruments



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### CHANDRAYAAN 2

Terrain mapping camera 2

- ✦ Has three cameras – fore, nadir and aft and resolution of 5 m with swath of 20km.
- ✦ for preparing a three-dimensional map essential for studying the lunar mineralogy and geology

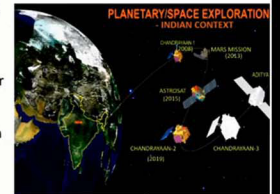


### Objective of Planetary Data Processing

To Provide the data products from science Payloads of Planetary missions to the scientific community in User friendly format & according to global data standards

#### Application of Data Products for Planetary Exploration

- Planet Formation (Age / Temporal Evolution)
- Current Surface and Interior Properties
- Water / Water Ice
- Human Settlement/Base on Planet
- Space Tourism, Mining, Platform to reach Other Planets



IH

PJ

DS

LS

### Planetary Remote Sensing :

#### • Planetary Surface :

- Terrain
- Composition
- Radioactivity
- Gravity
- Level of Exposure to Space &
- Landing hazards



#### • Planetary Atmosphere :

- Composition
- Density
- Pressure
- Hazards



DS

DS

LS

