



A REPORT ON  
Webinar on “Exploring the life and times of Cosmic Dust in our local universe”

1. Name of the Event: Webinar on “Exploring the life and times of Cosmic Dust in our local universe”
2. Duration, and Date: 5<sup>th</sup> November, 2020
3. In collaboration with (if any, mention the name of the organization or individual or others): IUCAA Centre for Astronomy Research & Education (ICARD), Tezpur University
4. Number of participating students: [Please enclose the certified list of students] **ONLINE**
5. Number of resource persons (if any): 01
6. Names, affiliation, and contact of resource persons: Dr Gautam Saikia, IISc, Bengaluru
7. Summary of the event: Speaker introduced Interstellar Dust and explained how it plays a significant role in controlling our view of the universe. He also explained the importance of multi-wavelength astronomy.
8. Photographs with captions, and dates:

Screenshot captured during the talk

The screenshot shows a presentation slide titled "MULTIWAVELENGTH OBSERVATORIES". The slide is divided into several sections. At the top, it says "MULTIWAVELENGTH LAND & SPACE BASED OBSERVATORIES". Below this, there are seven vertical columns representing different wavelength bands: RADIO, INFRARED, OPTICAL, ULTRAVIOLET, X-RAY, and GAMMA RAY. Each column shows the path of light from space down to Earth's surface, illustrating how different wavelengths are affected by the atmosphere. For example, the RADIO band shows light reaching the ground, while the ULTRAVIOLET and X-RAY bands show light being absorbed by the ozone layer. The slide also includes text boxes explaining the placement of telescopes based on atmospheric effects. A small video window in the bottom right corner shows the speaker, Gautam Saikia. The slide footer contains the text "Exploring the life and times of Cosmic Dust", "Gautam Saikia", "Nov 5, 2020", and "14/25".

**MULTIWAVELENGTH OBSERVATORIES**

MULTIWAVELENGTH LAND & SPACE BASED OBSERVATORIES

Molecules in the ozone layer of the atmosphere absorb high energy photons.

1000 km

100 km

10 km

Most photons in the optical waveband are not absorbed, and parts of the ultraviolet, infrared, and radio wavebands also reach the ground.

OZONE LAYER

The atmospheric effects on incoming light in each waveband determines the placement of telescopes.

Most of the Radio waveband is detectable using large dish antennae on the ground.

The infrared waveband can be detected from airplanes.

Ground telescopes observe most optical light, and some infrared and ultraviolet.

Balloons and rockets are used to test out new telescope technologies.

Space telescopes avoid atmospheric distortions and access high energy radiation.

**Fig. :** Multi-wavelength ground and space based observatories.

Credits: University of Chicago Digital Library.

**Aim:**  
To get a more **complete picture** of the Universe.

Exploring the life and times of Cosmic Dust    Gautam Saikia    Nov 5, 2020    14/25

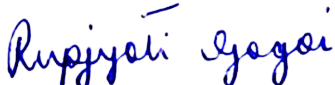

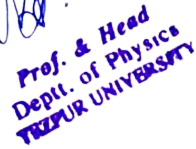
Gautam Saikia



**DEPARTMENT OF PHYSICS**  
**TEZPUR UNIVERSITY**  
Napaam, Tezpur - 784 028  
Sonitpur (Assam), India

☎ : 03712-267111  
03712-267007-9( ext- 5551,5550)  
Fax : 03712-267005, 267006  
e-mail- hod\_phy@tezu.ernet.in  
website: www.tezu.ernet.in

9.

Signatures of Conveners/ Chair/ Coordinator/ In-charge	Signature and Seal of Head of Department/ Centre/ Cell
 <b>Name: Dr Rupjyoti Gogoi</b> <b>Designation: Assistant Professor</b>	  <b>Name: Prof. M.K. Das</b> <b>Designation: HoD</b>
<b>Name:</b> <b>Designation:</b>	
<b>Name:</b> <b>Designation:</b>	



# DEPARTMENT OF PHYSICS TEZPUR UNIVERSITY

Napaam, Tezpur - 784 028  
Sonitpur (Assam), India

☎ : 03712-267111  
03712-267007-9( ext- 5551,5550)  
Fax : 03712-267005, 267006  
e-mail- hod\_phy@tezu.ernet.in  
website: www.tezu.ernet.in

Poster for the event:

**ICARD** 

Webinar organised by,  
IUCAA Centre for Astronomy Research & Development, Tezpur University  
&  
Department of Physics, Tezpur University

**Date:**  
5<sup>th</sup> Nov,  
2020  
**Time:**  
03:30 pm

**Speaker: Dr. Gautam Saikia**

Dr. Gautam is an observational astrophysicist working as a post-doctoral researcher at the Indian Institute of Science (IISc), Bengaluru, India. He finished his Masters and PhD in Physics from Tezpur University.

**Title: Exploring the life and times of Cosmic Dust in our local universe**

The Milky Way Galaxy is home to not only us, but billions of stars we see in the night sky. Each astronomical object, such as a star, within any galaxy emits radiation across multiple wavelength bands of the electromagnetic spectrum. The inter-stellar medium of our Galaxy is ~99% gas and ~1% dust, by mass. In this talk, we will take a closer look at how dust, even with such tiny fraction, plays an important role in controlling our view of the surrounding universe. We will also try to understand why multi-wavelength astronomy is the need of the hour, such that we gather a complete understanding of various astrophysical phenomenon occurring around us.

Join using : [meet.google.com/ikc-wczk-pgi](https://meet.google.com/ikc-wczk-pgi)  
Watch online : <https://youtu.be/LzAQJ-4zhus>

**Organising Team**


*Prof. Nilakshi Das*  
Head, Department of Physics

*Dr. Rupjyoti Gogoi*  
Coordinator, ICARD,  
Tezpur University

*Dr. Moon Moon Devi*  
Webinar Coordinator

**Members:**  
All faculty members,  
Department of Physics,  
Tezpur University

Email: [astrophytu@gmail.com](mailto:astrophytu@gmail.com)

  
Prof. & Head  
Dept. of Physics  
TEZPUR UNIVERSITY