

# International Symposium on Extraterrestrial Life

(AI, Exoplanets, Colonisation of mars and Future of Humanity)



International Level Symposium  
On  
Extraterrestrial Life  
(AI, Exoplanets, Colonisation of Mars and Future of Humanity)  
Mode: Hybrid





Organized by  
The Vedanta Physics Society  
Department of Physics  
Netaji Subhash Chandra Bose Memorial  
Govt. College Hamirpur, HP, India  
December 20, 2024  
Latitude : 31.6740919 N  
Longitude : 76.5204671 E  
Conference Hall




**Patron**  
Dr. Pramod Pathal  
Principal  
NS CSM GOVT. College Hamirpur HP



**Coordinator**  
Prof. Nandini Galaria  
HOD Physics



**Convener**  
Prof. Lakh Rana



**Organizing Committee**

- Prof. Parshant Sharma
- Prof. Suresh Kumar
- Dr. Rohit Soodh
- Dr. Ashwini Puri
- Dr. Virender Partap Singh

**Invited Speakers**



**Dr. Chandan Bhardwaj**  
Principal  
Govt. College Majheen HP



**Dr. Dinesh Pathak**  
HOD Physics  
The University of West Indies  
St. Augustine Campus, Trinidad



**Dr. Rakhee Chaudhary**  
Dean, School of Basic & Applied Science  
Career Point University  
(Kota, Rajasthan)



**Dr. Monika Sanoria**  
Research Fellow  
University of California  
(Merced, USA)






**About The College**  
Established in the year 1965, half century ago, Netaji Subhash Chandra Bose Memorial Govt. College Hamirpur, is a premier of higher education in the entire state. The motto of the college is: "Bravery and Sacrifice" which truly inspires our students to become a real life soldier to defend and preserve our traditions and culture. The institute is an atmosphere which all alumni look back to with fond memories. It has been imparting higher education in the fields of Arts, Science, Commerce and the training of Teachers. We are committed to give our students the ability to recognize the divine in themselves and their fellow beings, and thus to respect the dignity and uniqueness of each individual. It has been institution's consistent endeavor to provide quality education to its students; maintain discipline as well as provide an opportunity for all round personal development.

**About The Topic**  
The question of whether extraterrestrial life poses a threat or an opportunity to humanity has been a subject of intense debate. As our understanding of space expands, particularly with the discovery of exoplanets and subatomic in space exploration, the possibility of encountering life beyond Earth seems increasingly plausible. However, this potential discovery brings both excitement and concern. While the discovery of extraterrestrial life presents both immense opportunities and significant risks, it is clear that humanity must be prepared for a wide range of possibilities. Open-minded scientific exploration, rigorous ethical considerations, and international cooperation will be essential in navigating this profound potential milestone in human history. Whether extraterrestrial life becomes an opportunity, or a threat largely depends on our readiness to face the unknown and manage the uncertainty responsibly.

**Events**

- Expert Talks
- Idea Presentations
- Paper Presentations
- Poster Presentations
- Model Presentations



More Information Contact:  
Prof. Lakh Rana

+91 8894112016  
rana.phy@ gmail.com



**DATE :** December 20th 2024

**VENUE :** Conference Hall, N.S.C.B.M. GOVT. COLLEGE HAMIRPUR

## RESOURCE PERSONS :

- Dr. Chandan Bhardwaj (Principal. Govt. College Majheen)
- Dr. Dinesh Pathak (HOD Physics. The University of West Indies St. Augustine Campus, Trinidad)
- Dr. Rakhee Chaudhary (Dean. School of Basic & Applied Science Career Point University, Kota)
- Dr. Monika Sanoria (Research Fellow. University of California, Merced USA)

# THE FOLLOWING COMMITTEES WERE CONSTITUTED FOR THE SMOOTH CONDUCT OF THE EVENT



**Netaji Subhash Chander Bose Memorial  
Govt. College Hamirpur,  
Himachal Pradesh**

Tel. No.: 01972-223227, FAX: 01972-223227, E-mail: gchamirpur-hp@nic.in



No. 1425

Date: 19/12/2024

The following committees are hereby constituted for the smooth functioning of International Level Symposium that is going to be held in the college on 20/12/2024. All to note it for compliance.

Details Of Committees	
<b>Organizing Committee</b>	
Prof. Neelam Kumari	
Prof. Lavli Rana	
Dr. Rohit Sandal	
<b>Certificate/ Memento Distribution Committee</b>	
Dr. Ashwani Puri	
Rumari	
Shivali	
Pragti	
<b>Refreshment Committee</b>	
Prof. Prashant Sharma	
Sh. Rajender Singh	
Sh. Vijay Kumar	
Samriti Kaushal	
Yavindra	
Aditi	
<b>Technical Support Committee</b>	
Prof. Suresh Kumar	
Mr. Jagdeep	
Anshul	
Pankaj	
<b>Registration Committee</b>	
Dr. Virender Pratap Singh	
Kriti Mehta	
Riya Saini	
Mohit Garha	
<b>Stage Handling Committee</b>	
Payal Thakur	
Priyanka Kumari	

  
Principal  
NSCBM Govt. College Hamirpur  
Principal  
G.C. HAMIRPUR

# SCHEDULE OF THE DAY



**Netaji Subhash Chander Bose Memorial  
Govt. College Hamirpur,  
Himachal Pradesh**

Tel. No.: 01972-222227, FAX: 01973-222227, E-mail: [gcHamirpur-hp@nic.in](mailto:gcHamirpur-hp@nic.in)



## Department of Physics

International Symposium  
(20-12-2024)

### SCHEDULE OF THE EVENT

- Registration : 9:00 AM
- Welcome of the Chief Guest/Guests : 9:30 AM
- Lightening of the lamp : 9:35 AM
- Rosette Pin up to all Guest : 9:40 AM
- Plant Presentation to the chief Guest by Physics Faculty 9:45 AM
- Brief introduction of event by Prof. Lavli Rana : 9:50 AM
- 1<sup>st</sup> Presentation : 10:00 AM (Dr. Monika Sanoria)
- 2<sup>nd</sup> Presentation : 10:40 AM (Dr. Dinesh Pathak)

### TEA BREAK 11:20 AM - 11:30 AM

- Students' Presentation : 11:30AM - 12:30 PM
- 3<sup>rd</sup> Presentation : 12:30 PM (Dr. Chandan Bhardwaj)

### LUNCH BREAK 1:10PM – 1:50 PM

- 4<sup>th</sup> Presentation : 1:50 PM (Dr. Rakhi Chaudhary)
- 5<sup>th</sup> Presentation : 2:30 PM (Prof. Neelam Kumari)
- 6<sup>th</sup> Presentation : 3:00 PM (Dr. Virender Pratap Singh)
- Students' Presentation : 3:30PM - 4:00 PM

### HIGH TEA BREAK 4:00PM – 4:10 PM

- 7<sup>th</sup> Presentation : 4:10 PM (Prof. Lavli Rana)
- Open House Discussion : (4:40 PM)
- Report Presentation by HOD Physics : (5:00 PM)
- Valedictory Function : (5:15 PM)
- Vote of Thanks by Prof. Parshant Sharma : (5:25 PM)
- National Anthem (5:30 PM)



# Registration Details



**Netaji Subhash Chander Bose Memorial  
Govt. College Hamirpur,  
Himachal Pradesh**

Tel. No.: 01972-222227, FAX: 01972-222227, E-mail: gchamirpur-hp@nic.in



## Department of Physics International Symposium 20/12/2024

### Registration Details

S.no.	Name	Designation	College	Theme/Topic	Signature
1	Saxena	Student	G.C. Hamirpur		
2	Sumit Kaurhal	Student	G.C. Hamirpur	Exp. planets	
3	Kush	Student	G.C. Hamirpur	Colonization of Mars	
4	Mohit Gasha	Student	G.C. Hamirpur	Golden record	
5	Ashta	Student	G.C. Hamirpur	Golden record	
6	Ravi Dull	Asst. Prof.	G.C. Hamirpur		
7	K. Singh	Asst. Prof.	G.C. Hamirpur		
8	Ms. Neelam Kumari	Associate Professor	G.C. Hamirpur	Exploration for habitable exoplanets	
9	Shilpa Shukla	Asst. Prof.	G.C. Hamirpur		
10	Arun Lal Kishore	Asst. Prof.	G.C. Hamirpur		
11	Dr. Kalyana Chandra	Asst. Prof.	G.C. Hamirpur		
12	Pooja Datta	Student	G.C. Hamirpur		
13	Dr. Vinay Kumar	Asst. Prof.	G.C. Hamirpur		
14	Dr. Pooja	Asst. Prof.	G.C. Hamirpur		
15	Dr. Vinay Kumar	Asst. Prof.	G.C. Hamirpur		
16	Dr. Anshu Kumar	A.P. Commerce	G.C. Hamirpur	The Role of Science in Advancing Exploration	
17	Dr. Arjun Kumar	A.P. Physics	G.C. Hamirpur	Astrophysical Interactions	
18	Shivam Sharma	Student	G.C. Hamirpur	Exoplanets +	
19	Pooja Kumari	Asst. Prof.	G.C. Hamirpur		
20	Gayatri Datta	Student	G.C. Hamirpur	Archaeology	
21	Kavya Kaur	Student	G.C. Hamirpur	Archaeology	
22	Dr. Pooja Kumari	Asst. Prof.	G.C. Hamirpur		
23	Dr. Pooja Kumari	Asst. Prof.	G.C. Hamirpur	Use of AI	
24	Dr. Arjit Pandey	Asst. Prof.	G.C. Hamirpur	Astrophysics	
25	Prashant Sharma	Asst. Prof.	G.C. Hamirpur	Exoplanets	
26	Pooja Kumari	Asst. Prof.	G.C. Hamirpur	AI for finding	
27	Sanjay Kumar	Asst. Prof.	G.C. Hamirpur		

# Details of the Participants

Department of Physics Attendance Sheet International Symposium Date :20/12/2024				
S. No.	Name of Student	Class	Roll No.	Sign.
1	Payal Thakur	M.Sc 3 <sup>rd</sup> Sem	23MScPHY022	Payal
2	Aiyanka Kumari	M.Sc.3 <sup>rd</sup> Sem	23MScPHY029	Aiyanka
3	Ritmani	M.Sc.3 <sup>rd</sup> Sem	23MScPHY034	Ritmani
4	Riya Saini	M.Sc 3 <sup>rd</sup> Sem	23MScPHY025	Riya
5	Nisha Dhaman	M.Sc 3 <sup>rd</sup> Sem	23MScPHY036	Nisha
6	Harshit Sharma	M.Sc 1 <sup>st</sup> Sem	24MScPHY008	Harshit Sharma
7	Lakshay Thakur	M.Sc 1 <sup>st</sup> Sem	24MScPHY005	Lakshay
8	Umesh	M.Sc 1 <sup>st</sup> Sem	24MScPHY011	Umesh
9	Ajay Kumar	M.Sc 1 <sup>st</sup> Sem	24MScPHY032	Ajay Kumar
10	Satish Bhusan	B.Sc 1 <sup>st</sup> Year	24BScM011	Satish
11	Ankita Sharma	B.Sc 1 <sup>st</sup> Year	24BScM054	Ankita Sharma / Shivali Thakur
12	Shivali Thakur	B.Sc 1 <sup>st</sup> Year	24BScM011	Shivali Thakur
13	Bhumika Sharma	B.Sc 1 <sup>st</sup> Year	24BScM014	Bhumika Sharma
14	Rohit Kumar	M.Sc 1 <sup>st</sup> Sem	24MScPHY026	Rohit
15	Bhav Raj	M.Sc 1 <sup>st</sup> Sem	24MScPHY021	Bhav Raj
16	Sejal U Rana	M.Sc 1 <sup>st</sup> Sem	24MScPHY002	Sejal
17	Priyansh Dohal	M.Sc 1 <sup>st</sup> Sem	24MScPHY003	Priyansh Dohal
18	Vishal Kumar	"	24MScPHY024	Vishal
19	Ashish Krishan	"	24MScPHY012	Ashish
20	Astha	M.Sc. pass out	22MScPHY021	Astha
21	Deepika	M.Sc. pass out	22MScPHY027	Deepika
22	Utkarsh	M.Sc 1 <sup>st</sup> Sem	24MScPHY004	Utkarsh
23	Ayush Choudhary	M.Sc 1 <sup>st</sup> Sem	24MScPHY014	Ayush
24	Purav	M.Sc 1 <sup>st</sup> Sem	24MScPHY025	Purav
25	Ajay	M.Sc 1 <sup>st</sup> Sem	24MScPHY010	Ajay
26	Nandani Sharma	B.Sc 2 <sup>nd</sup> Year	23BScM040	Nandani
27	Manika	B.Sc 2 <sup>nd</sup> Year	23BScM050	Manika
28	Sahiba Sharma	M.Sc 3 <sup>rd</sup> Sem	23MScPHY007	Sahiba
29	Samjama	M.Sc 3 <sup>rd</sup> Sem	23MScPHY018	Samjama
30	Nishpal Thakur	M.Sc 1 <sup>st</sup> Sem	24MScPHY031	Nishpal
31	Shikha	M.Sc 1 <sup>st</sup> Sem	24MScPHY023	Shikha
32	Priyanka Bhatt	M.Sc 1 <sup>st</sup> Sem	24MScPHY002	Priyanka Bhatt
33	Harshit	M.Sc 1 <sup>st</sup> Sem	24MScPHY001	Harshit
34	Kavita Sharma	M.Sc (1 <sup>st</sup> Sem)	24MScPHY036	Kavita
35	Heta Patil	M.Sc (1 <sup>st</sup> Sem)	24MScPHY020	Heta
36	Ashmita	B.Sc 1 <sup>st</sup> Year	23BScM007	Ashmita
37	Nandani Sharma	B.Sc 1 <sup>st</sup> Year	23BScM040	Nandani
38	Shikha	M.Sc. 1 <sup>st</sup> Sem	24MScPHY023	Shikha
39	Tyoti Parmar	M.Sc 1 <sup>st</sup> Sem	24MScPHY019	Tyoti
40	Shamika	M.Sc 1 <sup>st</sup> Sem	24MScPHY018	Shamika



	Name	Class	Roll No.	Sign.
41	MUSKAN	BSc 3rd year	22PCH013	Muskan
42	tanu Palya	BSc 3rd year	21BSM074	Tanu Palya
43	MANJEET SINGH	BSc 3rd year	21PCH190	ms
44	maheet Gaur ha	MSC 3rd sem	23MSCPHY010	maheet
45	Nitika	BSc 2nd Year	23BSM030	Nitika
46	Kabirish Rana	BSc 2nd Year	23BSM022	Kabirish Rana
47	PAINKAJ KUMAR	BSc 3rd Year	22BSM017	Painkaj
48	ANSHUL KUMAR	BSc 3rd Year	22BSM065	Anshul
49	Arjun Rana	BSc 3rd Year	22BSM001	Arjun
50	Sahil Thakur	BSc 3rd Year	22PCH004	Sahil
51	Neha Paliyal	MSC 1st SEM	24PHY030	Neha
52	Shruti Kataria	MSC 1st Sem	24MSCPHY007	Shruti
53	Jyoti Parmar	MSC 1st Sem	24MSCPHY019	Jyoti Parmar
54	Shalu Thakur	MSC 1st Sem	24MSCPHY027	Shalu Thakur
55	Shruti	MSC 1st Sem	24MSCPHY034	Shruti
56	Shalini Sharma	MSC 1st Sem	24MSCPHY035	Shalini
57	Yashindra Thakur	MSC 1st Sem	24MSCPHY022	Yashindra
58	Aditi Thakur	MSC 1st Sem	24MSCPHY013	Aditi
59	Kavita Sharma	M.Sc 1st sem	24MSCPHY036	Kavita
60	Namita Sharma	B.Sc 2nd year	23BSM060	Namita
61	Shayna	B.Sc 1st year	24PHY005	Shayna
62	Ashra Sharma	B.Sc 1st year	24PHY015	Ashra
63	Rishi	MSC 3rd Sem	23MSCPHY020	Rishi
64	Divanshu	MSC 3rd Sem	23MSCPHY007	Divanshu
65	Shabnam	MSC 3rd Sem	23MSCPHY048	Shabnam
66	Samrati	MSC 3rd Sem	23MSCPHY001	Samrati
67	Shubham	MSC 3rd Sem	23MSCPHY032	Shubham
68	Rohit Verma	BSc 3rd Year	23MSCPHY020	Rohit
69	Ayush	BSc 3rd Year	23MSCPHY008	Ayush
70	Shagun	BSc 11 Year	23MSCPHY047	Shagun
71	Anjali Devi	11	23MSCPHY091	Anjali
72	Amit Kumar	11	23PHY005	Amit
73	Mayank	11	23PHY038	Mayank
74	Rishabh HIMAN	11	23PHY016	Rishabh
75	SHIKHA	11	23PHY012	Shikha
76	DIKSHA	11	23PHY004	Diksha
77	HIMANSHU	11	22PHY079	Himanshu
78	Vansha	11	22PHY051	Vansha
79	Deepak	11	23PHY018	Deepak
80	Payal	11	23PHY006	Payal
81	Sania	11	23PHY001	Sania
82	Aman	11	23PHY010	Aman
83	DIKSHA	11	23PHY022	Diksha
84	Rishu	11	22PHY090	Rishu
85	Nitin	11	23PHY030	Nitin
86	Payal	11	23PHY007	Payal
87	Mehar	11	23PHY010	Mehar

S.No	Name	Year	Roll No	Signature
88	Aniket	24 BSC028	24 BSC028	Aniket
89	Sakshi	1 year	24 PCH037	Sakshi
90	Ruchi	1 year	24 PCH031	Ruchi
91	Shreya	1 year	24 PCH006	Shreya
92	Rishi	1 year	24 PCH009	Rishi
93	Koutika	2nd Year	23 PCH003	Koutika
94	Polak	2nd Year	23 PCH007	Polak
95	Sujal	2nd Year	23 PCH009	Sujal
96	Radhak	2nd Year	23 PCH018	Radhak
97	Sagun	2nd Year	23 PCH026	Sagun
98	Abshek	2nd Year	23 PCH024	Abshek
99	Nikshat	2nd Year	23 PCH034	Nikshat
100	Kanika	2nd Year	23 PCH036	Kanika
101	Mustan	2nd Year	23 PCH044	Mustan
102	Sweta	2nd Year	23 BSC003	Sweta
103	Anand	2nd Year	23 BSC052	Anand
104	Vaishali Banzali	MSC IIIrd Sem	23 MSCPHY040	Vaishali
105	Mammi Dogra	MSC II Ed Sem	23 MSCPHY042	Mammi
106	Sachin Kumar	MSC IIIrd Sem	23 MSCPHY045	Sachin
107	Akhil Sharma	MSC IIIrd Sem	23 MSCPHY010	Akhil
108	Ayush	MSC III Sem	23 MSCPHY008	Ayush
109	Rohit	MSC III Sem	23 MSCPHY090	Rohit
110	Mohit Gasha	MSC III Sem	23 MSCPHY020	Gasha
111	Anjeeta Chouhan	MSC III Sem	23 MSCPHY007	Anjeeta
112	Dinanshu	MSC III Sem	23 MSCPHY009	Dinanshu
113	Akshay Chopda	MSC IIIrd Sem	23 MSCPHY014	Chopda
114	Shabnam	MSC IIIrd Sem	23 MSCPHY048	Shabnam
115	Shagun	MSC 3rd Sem	23 MSCPHY047	Shagun
116	Aashish	MSC 3rd Sem	23 MSCPHY046	Aashish
117	Sangeeta	MSC 3rd Sem	23 MSCPHY028	Sangeeta
118	Arina Kumari	MSC 3rd Sem	23 MSCPHY041	Arina



S.No	Name	exam	Rolls. No.	Sign
119	Ankita. Meo	Msc 3th Sem	23MSCPHY02	Ankita Meo
120	Angali Thakur	BBA 3rd Sem.	23BBA038	Angali Thakur
121	Shreya Thakur	BBA 2nd Sem	24BBA010	Shreya
122	Komal Thakur	BBA 2nd Sem.	24BBA065	Komal
123	Aarti Rana	BBA 2nd Sem.	24BBA100	Aarti
124	Nikita	BBA 3rd Sem.	23BBA063	Nikita
125	Nikita Sharma	BBA 3rd Sem.	23BBA043	Nikita Sharma
126	Eakta Jaswal	BBA 3rd Sem.	23BBA013	Eakta Jaswal
127	Aakash Bhardwaj	BA 2nd Year	23EN9039	Skj
128	Amaan Verma	BA 2nd Year	23EN9038	AV
129	Sakshi Aggarwal	BA 3rd Year	22ENR021	Sakshi
130	Shreya Thakur	MA 4th Sem	22MNH20	Shreya
131	Nidhi Sharma	B.S.C III Year	22LCH003	Nidhi
132	Anshika	B.S.C 3rd Year	22LCH026	Anu
133	Ashutosh Gautham	MSC 3rd	23MSCPHY04	Ashutosh
134	Harsh Kumar	MSC 3rd	23MSCMATH-035	Harsh
135	Dhruv Patal	BSC 3rd	22ZOO016	Dhruv
136	Sunaina Rana	BSC 3rd	22ZOO057	Sunaina
137	Krushbu	Bsc 3rd	22ZOO078	Krushbu
138	Rubina	BA 3rd	22HIS017	Rubina
139	Payal Thakur	B.Sc 3rd Year	22ZOO010	Payal
140	Shivani Thakur	BSC 5th Year	22ZOO050	Shivani



# Presentation by the Resource Persons

- **Dr. MONIKA SANORIA**

Dr. Monika Sanoria is a learner and a Doctorate in Physics. Right now she is persuing her Post-Doctoral Fellowship ,which is a program that provides training for career advancement and scholarly development for those who have a doctoral degree. She is doing her PDF from Scholar University of California Merced (USA).



In her presentation she highlighted the concept of '**Extraterrestrial Life**'.She gave us information on how aliens or extraterrestrial lifes can affect the life on Earth. She also shared with us some delicate information about many UFOs being spotted by NASA but still kept as a secret as to avoid panic among people and also because we do not have sufficient knowledge about these UFOs.

## • DR. DINESH PATHAK

Dr. Dinesh Pathak is the HOD of physics in The University of West Indies St. Augustine Campus, Trinidad.

He is the head of Physics department

.His research interests includes

Nanostructured Compound

Semiconductors (Chalcopyrites)

,Oxide Nanocomposites /Low cost gel synthesis of TCOs



Dr. Dinesh Pathak discussed about **“The Importance of Nanostructured Materials in Exploration of Extraterrestrial Life”**.

## • DR. RAKHEE CHAUDHARY

Dr. Rakhi Chodhary is a professor of Physics at Carrier Point University Kota , Rajasthan.

She is an accomplished academic and administrative leader with over23+years of experience in higher education. She has been privileged to serve in various academic and



administrative responsibilities and key role in inspection and accreditation. Dr. Rakhi Chodhary discuss about **“The Future of Human Identity : Ethical Impact of Discovering Extraterrestrial Life”**.



## • DR. CHANDAN BHARDWAJ

Dr. Chandan Bhardwaj is the Principal of Govt. College Majheen. We humans are three dimensional beings and trying to find aliens on other planets in three dimension as well. But the question is that are there only three dimensions ? Dr. Chandan gave a completely new way of thinking about it. According to



string theory there are 11 dimensions and we humans are trapped in 3rd dimension. There might be a species that is living in a higher dimension and their dimensions are overlapping with ours. Neither we can see them nor they can see us. There might be an alien coexisting with us but in a different dimension. He discussed about many other theories related to humans and our universe. He talked about the Matrix Theory which says that we humans are just the NPCs of a world made by an higher dimensional beings and are just trapped but don't know about it. He also talked about Universal Zoo theory which says that human are just a primitive species and are caged as we do with other animals on earth and a much powerful and intelligent species is watching us and laughing at us. He also talked that how the whole universe resembles to the brain of a human so it can also be possible that our universe is just a brain of some omnipotent being and we are just a part of his imagination. He also discussed about the quantum chip which was recently in news WILLOW which solved a complex mathematical problem in just 5 minutes, a task that would take classical computer an estimated time of 10 septillion years. It is said that quantum computers break the walls of universe and communicate with other quantum computers in different universes and it might be a key of multiversal travel. He discussed about the technology of Teleportation. How in future we will be able to dematerialize our body and then materialize it on some other place eventually teleporting ourselves. He also discussed about Neuralink's N1 Chip. A chip that is able to understand our brain's activity and convert it in a manner to make it understandable for computers. Which will make computing easier than today. He discussed what will be the future of humanity not only on other planets but also on our planet as well.

## • PROF. LAVLI RANA

Prof. Lavli Rana is the professor of Physics in N.S.C.B.M. Govt. College Hamirpur. The topic of his presentation is **"LIFE BEYOND EARTH : Prospects for Civilization and Interstellar Travel"**. He discussed about life beyond earth and what are the conditions for this to happen. He talked about the habitable



zone of a star which is also known as Goldilock Zone. He gave us an idea that how the mass of a star affects the Goldilock Zone and what kind of life form can grow on the planets lying in this zone. He also discussed the fact that we always compare the extraterrestrial life form with the life form present on earth but it might be completely different from that, it might be silicon based life form because the conditions that we get on earth might not be possible on those planets. He also talked about Drake Equation, an equation which estimates the number of active, communicative extraterrestrial civilization in Milky Way Galaxy and if we put all the values in this equation then the number which came out is very large. So, the question is why we are unable to communicate with any civilization till now or why they are unable to communicate with us. Then he talked about the possible reasons for it. First one was the complexity of interstellar travel. First of all it is really hard to make a space ship that can do such things, second reason is the extremely large distances to travel with really slow speed which will take millions of years even to reach the closest exoplanet and third one was the complexity of extra dimensions.



## • DR. VIRENDER PRATAP SINGH

Dr. Virender Pratap Singh is the professor of Physics in N.S.C.B.M. Govt. College Hamirpur . He discussed about Material Science and how it is very important to us. He started his presentation from the very beginning ,from the origin of the first metal that was ever used by human kind , that is stone . Then he shared with us that how humans evolved from stone to iron in the iron age ,in which we



used iron in a variety of manner from being a vessel to be used as a weapon for hunting and for many more purposes. By this information we get to know how important Material Science is . Even in the modern time Material Science is one of the most interesting field . And even now a lot of discoveries are still going on in this field.

He also highlighted the importance of Material Science whether it is in terms of classic level material or quantum level material. He discussed about the results of his personal studies on the material sciences.

Sir shared with us the experimental results from his own lab which is situated in the campus of N.S.C.B.M College.

# Presentation by the Students

- **SAMRITI KAUSHAL**

Samriti is a student of N.S.C.B.M. Govt. College Hamirpur. She gave her presentation on the topic **"EXOPLANETS"**. An Exoplanet is a planet outside our solar system which ,like earth, orbits one or more giant bodies. There are more than 5,600 confirmed Exoplanets. Most of the Exoplanets discovered so far are in a small region of few thousand light years. So we can't even imagine how many earth like planets will be there in our universe. The closest Exoplanet to earth is Proxima Centuari B and even it is 4 light years away from our solar system which means reaching there with the help of today's technology is near impossible so going there to check whether life exists there or not might not be possible but we have some other methods to do this. By measuring the size and mass of these planets we can find out the composition of these planets and tell whether they are suitable for developing life form or not.





## • MOHIT GARHA

Mohit is a student of N.S.C.B.M. Govt. College Hamirpur. He gave his presentation on the topic "**THE GOLDEN RECORD**". It is a try of humans to tell humans that you are not alone here. Mohit discussed how the unknown life form will decode it, what is the meaning of all those weird symbols and what is the language of the tutorial of handling this disk. What are the sounds that are on the disk and all the images sent to those creatures. Why we sent only those 115 pictures and not others. He also discussed about converting the sound into images and why we sent those particular images and what aliens will think of us by seeing all those images. Will they find us friendly or will they think that we are danger to them ?



## • KRITI

Kriti is a student of N.S.C.B.M. Govt. College Hamirpur. She gave her presentation on the topic "**COLONIZATION OF MARS**". As we know that population of earth is increasing rapidly we need a new home. Mars is the best suitable planet to colonize humans. But there are many challenges in doing so. Kriti discussed about it in complete detail. How are we going to change the completely different atmosphere of Mars into Earth's ? How are we going to overcome the barrier of this large distance ? What are the potential locations where extraterrestrial life can flourish ? There are multiple locations found on mars like underground regions and hydrothermal vents and there is a possibility that microbial life can be found there. And if it is possible on Mars then it can be possible on Exoplanets as well.



## • SANJANA

Sanjana is a student of SWAMI VIVEKANAND Govt. Degree College Ghumarwin. She gave her presentation on the topic **"EXTRATERRESTRIAL LIFE"**. Sanjana gave a brief explanation about it. What is Extraterrestrial Life and why scientists believe it might exist ? Sanjana talked about different Exoplanets. She also explained what is extremophile and how it is possible that they can exist on other planets rather than earth. She also talked about



Colonization of Mars. What is it, how it can be achieved, what are the different missions done by us to do so and why do we need it ? She also gave a vast list of different books and series to us to understand more about life beyond earth. She also talked about NASA's Voyager missions and how they became farthest going man-made objects and gave a hint of The Golden Record. At last she left us with a question whether extraterrestrial life is an opportunity or a threat ? Should we be afraid of it or grab the opportunity. What are the biological challenges and what good will happen if we overcome these challenges.

## • SHIVAM SHARMA

Shivam Sharma is an alumnus of N.S.C.B.M. Govt. College Hamirpur. He gave his presentation on the topic **"EXTRATERRESTRIAL LIFE"**. He started his topic with a question, are humans extraterrestrial or not ? We might be thinking what kind of question is this but it all depends on frames of reference. For an alien we humans are



extraterrestrial being, and for us they are extraterrestrial. Then he went to the topic Exoplanets with an interesting story of Vishnupuran which tells us about the concept of multiverse. He talked about WASP 12 B planet which is orbiting a red dwarf and this red dwarf is sucking all its energy and kind of similar thing will happen with our planet earth too. He talked

about many other planets like Trapist-1 system which is a red dwarf again but interesting fact about it that in its solar system there is a series of planets which are revolving around it and not only one but many of these lies in the Goldilock Zone. He not only gave us the information about the topic but he tried to give us something extra, some wisdom which will be useful for us in our upcoming future.

## • ASTHA MODGIL

Astha is an alumna of N.S.C.B.M. Govt. College Hamirpur . She presented her poster on the topic "**BEYOND EARTH : Exploring AI, Exoplanets, Humanity's Future in Space**". Imagine AI as a brain behind all our upcoming space missions. It can detect Exoplanets much faster than a normal human do. She also discussed about habitable exoplanets and how Mars can be one of those leading to the idea of Colonization of mars.



In a nutshell we can say Human's curiosity drives us to explore extraterrestrial realms. From AI enabled space exploration to the discovery of Exoplanets and the dream of colonizing Mars, her poster showcases how we are shaping our future beyond earth.



# PHOTOGRAPHS OF THE EVENT

- Model and posters made by students



- Chief Guest Dr. Chandan Bhardwaj



## • Lightning of the Lamp





- Students pinning badges to our chief guest and guests





- **Presenting Bouquet to the Chief Guest**



- **All the presented members and students**



- **Anchors of the Event**



- **Certificate Distribution**





## Presenting memento to Chief Guest





- **A Final Group Photo**

