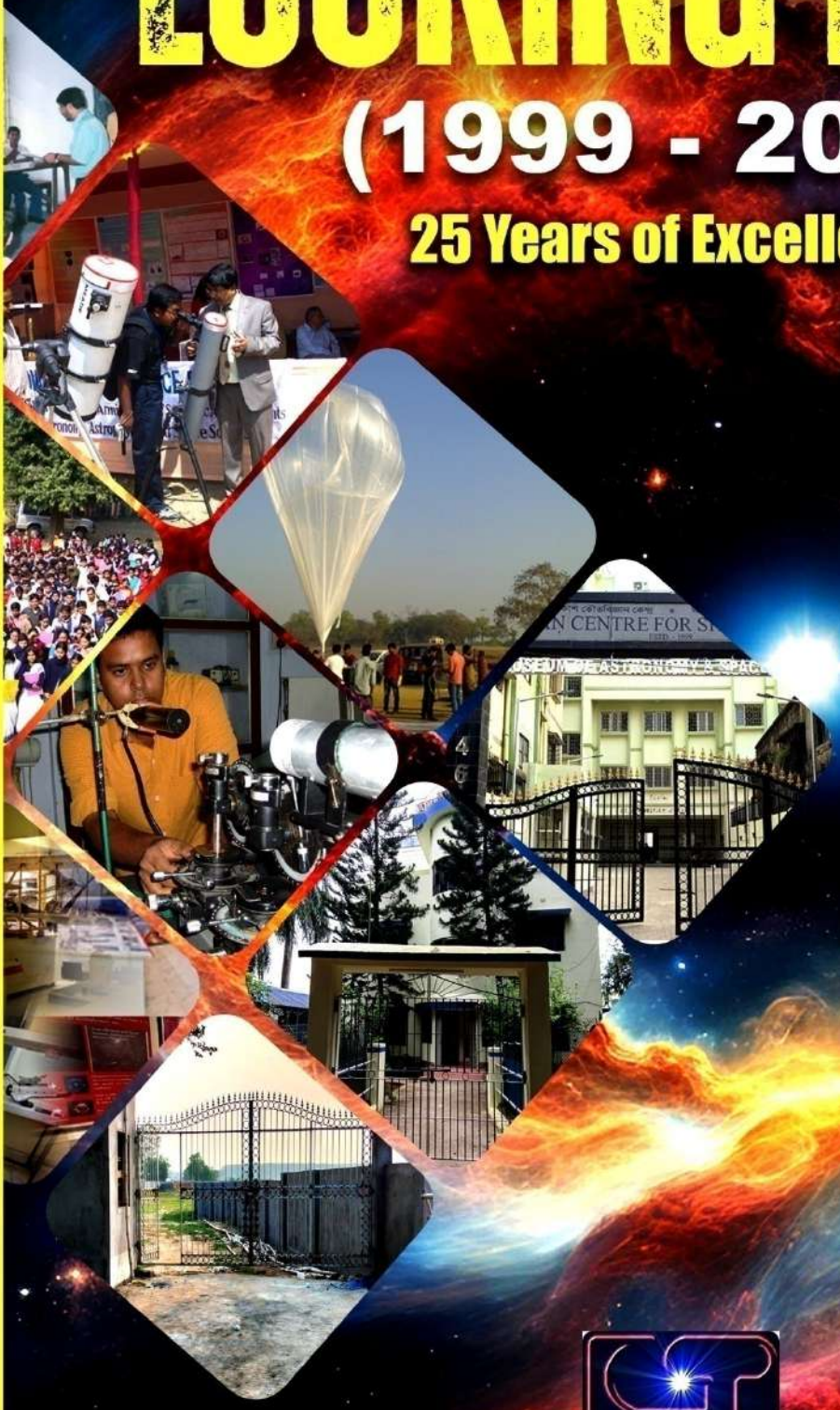
A Silver Jubilee Issue

LOOKING BACK

(1999 - 2024)

25 Years of Excellence



Indian Centre for Space Physics


“Dreams are not what you see in sleep;
they are the things that do not let you
sleep”
- A.P.J. Abdul kalam

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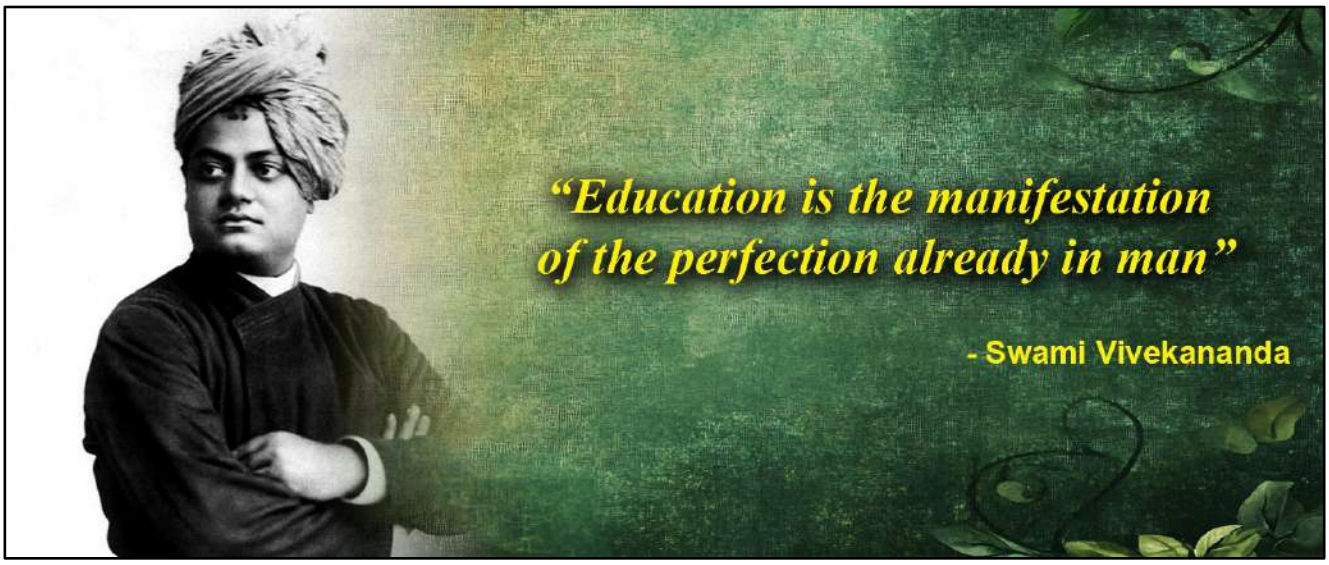

"Education is the manifestation
of the perfection already in man"
- Swami Vivekananda

Some Letters of Appreciation

Shrikumar Bandopadhyay
Officer on Special Duty (OSD)
Head of Task Force
to the Governor of West Bengal

Raj Bhavan, Kolkata- 700062
Tel: (033) 22001641 (ext.209)
headoftaskforcerajbhavan@gmail.com

No. 698- G

Date: 22/5/25

Message

The Hon'ble Governor of West Bengal conveys his warm greetings and heartfelt congratulations to the Indian Centre for Space Physics (ICSP) on the occasion of its 25th Anniversary.

As the first private startup in space science in India, ICSP has played a pioneering role in advancing research, innovation, and public understanding of astronomy and space science. It's remarkable journey over the past quarter-century stands as a testament to the transformative power of scientific inquiry and private initiative.

The Hon'ble Governor especially appreciates the efforts of ICSP in establishing the Astronomy and Space Museum and engaging in collaborative work with leading universities, including the University of Calcutta and University of Gour Banga. Such initiatives foster a vibrant ecosystem for scientific learning and exploration, inspiring future generations to dream beyond boundaries.

The proposed publication "Looking Back", documenting the milestones and contributions of ICSP, will serve as an important chronicle of scientific advancement in India. It will also act as a beacon for aspiring scientists and institutions venturing into the vast expanse of space science.

The Hon'ble Governor extends his best wishes to Prof. Sandip Kumar Chakrabarti, the faculty, researchers, and associates of ICSP for continued success in their noble mission.

With warm regards,

Shrikumar Bandopadhyay

Prof. Sandip Kumar Chakrabarti
Director, Indian Centre for Space Physics
466 Barakhola, Netaji Nagar,
Singhabari Road, Kolkata – 700099
E:mail- Sandip@csp.res.in

মমতা ব্যানার্জী
ममता बनर्जी
ممتا بنرجی
Mamata Banerjee

মুখ্যমন্ত্রী, পশ্চিমবঙ্গ
मुख्यमंत्री, पश्चिम बंगाल
وزیر اعلیٰ مغربی بنگال
CHIEF MINISTER, WEST BENGAL

5th August, 2025

MESSAGE

I am glad to learn that **Indian Centre for Space Physics** will soon be publishing its Silver Jubilee Issue – *'Looking Back'* – to commemorate 25 years of its remarkable journey as a centre of research, development, and training in the arena of space science and allied disciplines.

On this significant milestone, I convey my heartiest greetings and best wishes to the students, faculty, scholars and staff of the institute, and wish the Centre even greater success in the years to come.

(Mamata Banerjee)

Prof. Sandip K. Chakrabarti
Director
Indian Centre for Space Physics
466, Barakhola, Netai Nagar
Kolkata – 700 099

Nabanna, West Bengal Secretariat, Howrah - 711 102
West Bengal, India
Tel : + 91-33-22145555, + 91-33-22143101
Fax : + 91-33-22144046, + 91-33-22143528

Consulate General of the United States of America

July 26, 2024

Prof. Sandip Kumar Chakrabarti
Director of Museum of Astronomy & Space Science
466, Barakhola, Netai Nagar
Kolkata - 700099

Dear Professor Chakrabarti,

I am writing to express my heartfelt gratitude to you and your team for assisting us with the décor for our 248th U.S. National Day. The entire experience, from planning to execution, was nothing short of exceptional, and it made a significant positive impact on the guests and audiences.

U.S. Ambassador to India Eric Garcetti envisaged our 2024 National Day celebrations in India as "From the Sea to the Stars" themed events and that is exactly what you and your museum delivered for us. The artefacts, posters, and satellite models were outstanding and left our guests wanting more. We received numerous compliments from our guests about the beautiful and educational décor and cosmic atmosphere your museum team created for us. Many guests said they had not been aware of your museum and expressed interest in using their ticket to visit. Please do let us know how many people redeem the ticket.

We thank you for your personalized and thought-provoking video message, which was also well-received by our guests when it played during our event. I am also very grateful for your making the connection with India's most sought after cosmonaut, Wing Commander Rakesh Sharma. His personal message also provided another "wow" factor for our celebration.

On behalf of the U.S. Consulate General Kolkata team, please convey our sincerest thanks to everyone involved in making our 2024 event such a memorable occasion. We look forward to our nations working together to explore space for generations to come.

Sincerely,

Melinda Pavek
Consul General

5/1, Ho Chi Minh Sarani, Kolkata 700 071, India
Tel: 91-33-6827-2400 Fax: 91-33-6827 2416
Web: *https://in.usembassy.gov*

-------- Forwarded message ---------
From: Consular, Kolkata <ConsularKolkata@state.gov>
Date: Thu, Nov 14, 2024 at 1:27 PM
Subject: Thank You - U.S. Consulate General, Kolkata
To: sandipchakrabarti9@gmail.com <sandipchakrabarti9@gmail.com>

Dear Dr. Chakrabarti,

I hope this message finds you well.

On behalf of the U.S. Consulate General of Kolkata's Consular Section, I would like to extend our heartfelt thanks to the Indian Center for Space Physics, for the wonderful and warm welcome we received during our visit on Consular Leadership Day, November 13, 2024. Your hospitality and the insightful tour of your space museum made our visit truly memorable and greatly contributed to our Consular tenets of "Thinking Globally" and "Communication."

We were impressed by the cutting-edge research in various challenging branches of Astronomy, Astrophysics, Space Science and innovative projects being undertaken at your center. The detailed presentations and the opportunity to interact with your talented team provided us with a deeper understanding of the significant contributions your institution is making to the field of space physics.

The visit has left a lasting positive impact on our team, and we are grateful for the chance to engage with such a dedicated and knowledgeable group of professionals. The discussions we had were not only enlightening but also inspiring, and we look forward to the possibility of future collaborations and continued engagement.

Thank you once again for your generosity and for making our visit so enjoyable. We truly appreciate the effort and time you dedicated to ensuring our visit was a success.

Best,

Karl Mercer / Consular Chief
United States Consulate / Kolkata, India

SENSITIVE BUT UNCLASSIFIED

COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
DIRECTION DE LA RECHERCHE FONDAMENTALE
INSTITUT DE RECHERCHE SUR LES LOIS FONDAMENTALES DE L'UNIVERS
DEPARTEMENT D'ASTROPHYSIQUE

I am happy to see that ICSP is already 25 years old. It was created by Sandip to fill a gap in the eastern sector of India. I was present during its Foundation stone laying ceremony at the Integrated Campus and for the Museum of Astronomy and Space Science inauguration.

I was also present during the maiden flight launching at the upcoming balloon facility at Chandrapur. I am happy to have contributed a 1:10 scale model of our highly successful satellite named INTEGRAL to the Museum of Astronomy and Space Science which is kept in the Space Hall of the museum.

I see that though it is primarily a research Institute producing about half a century PhD students, its public outreach program is enviable. Its low budget stratospheric balloon program is very exciting and even produced several PhDs.

I hope that ICSP will go a long way to fulfill the aspirations of the people of West Bengal and the eastern region of India. I look forward to having collaborative activities with ICSP in future.

Sincerely,

Prof. Dr. Philippe Laurent

TABLE OF CONTENTS

Foreword

It is impossible to believe that the Institute which we registered only the other day, has completed twenty-five long years and counting! At first, we chose its name to be "*Centre for Space Physics*" but soon it became an "Oasis", attracting dozens of young students each year who wanted to carry out PhD work. After our own space exploration program using stratospheric balloons and after successful test and evaluation program of RT-2 Satellite payloads, we decided to change the name to "*Indian Centre for Space Physics*" in 2007. Ours is the first private sector space start-up in India and have flown 114 flights to near space to explore the Universe in various wave lengths at a very low cost. Today, our scientists have published numerous scientific papers in Astrobiology, Compact objects such as black holes, Ionospheric Research and Earthquakes, Optical Astronomy, Space Instrumentation, etc. in International Journals and on an average produced two PhD students per year. In the first twenty-three years our office was in rented places, and only recently we shifted to the present location on the Eastern Bypass on a lease-hold land given to us by the Government of West Bengal. While we brought many major projects from various funding agencies of Govt. of India, the State of West Bengal has been supporting us since inception, nurturing us with funds, perhaps just enough to keep us going, without which we would not have achieved so much in such a short period of time. Today we are proud to have a 38000 sqft building in the heart of Kolkata (and next to a Metro station too!) as our head office. This building also houses a Museum of Astronomy and Space Science with over 1200 rare exhibits, attracting numerous visitors every day.

At Sitapur (West Medinipur), about 80km from our Kolkata Office, we have created an *Ionospheric and Earthquake Research Centre and Optical Observatory (IERCOO)*, housing the largest Optical Telescope in Eastern India. It has a guest house where about sixty visitors can stay overnight. Apart from intense research activities, educational tours are conducted and many school and college students visit here. Many common space enthusiasts visit there as a part of the Astro-tourism program of ICSP.

At Chandrapur (Birbhum), on a 2 Acre land, we are constructing a *Stratospheric Balloon Facility*. Typically balloons which can carry about 6-10kg payloads will be launched from this facility. There will be facilities to train young students to make payloads and launch from here. Meanwhile, we are testing motors for rockets. Once we cross the Radiosonde regime, we can concentrate on studies at higher altitude using satellites.

ICSP is primarily a research and development organization with an active wing to serve common space enthusiasts. We are pragmatic. We love to share space research excitements with students in all the sectors, especially in ionospheric research, optical astronomy, space instrumentation and balloon borne science and thus chose experiments where younger generation may also get involved and inspired. For the last quarter of a century we have carried out our job well. Now that the infra-structure is complete, in the next twenty-five years, we anticipate a ten-fold growth in our activities.

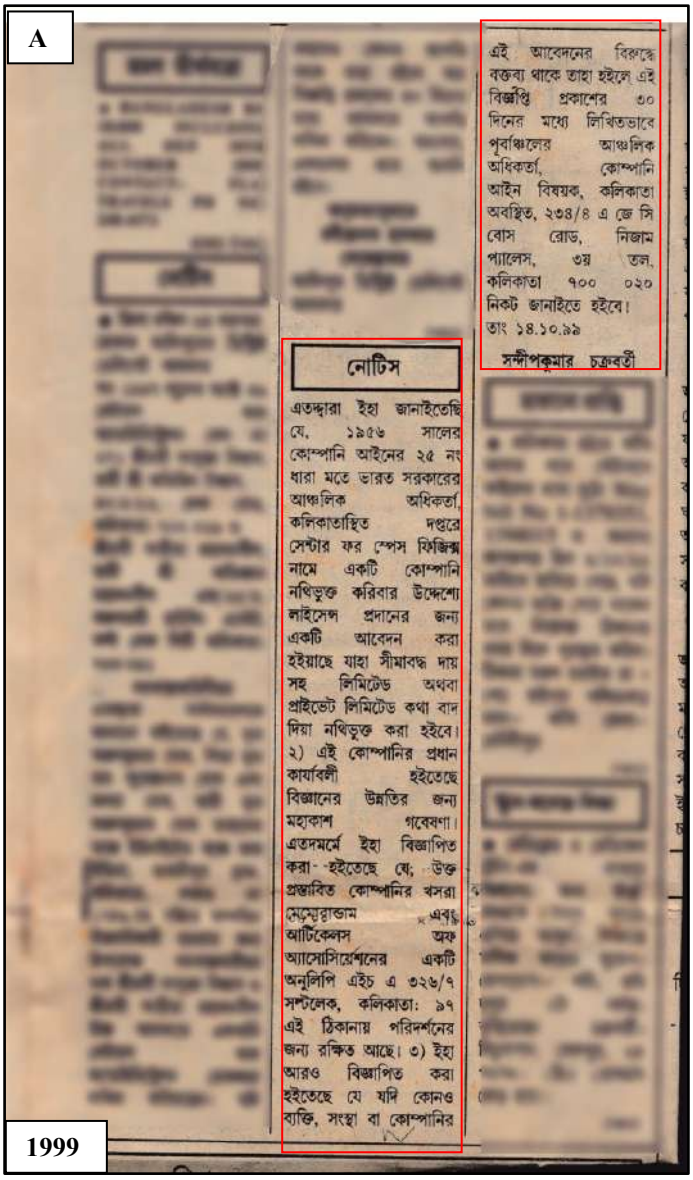
Sandip K. Chakrabarti
Founder General Secretary and Director
Indian Centre for Space Physics

Date: 07/12/2024

How did our journey begin?

First newspaper advertisements before registering the Centre

A



নোটিস

এতদ্দ্বারা ইহা জানাইতেছি যে, ১৯৫৬ সালের কোম্পানি আইনের ২৫ নং ধারা মতে ভারত সরকারের আঞ্চলিক অধিকর্তা, কলিকাতাস্থিত দপ্তরে সেন্টার ফর স্পেস ফিজিক্স নামে একটি কোম্পানি নথিভুক্ত করিবার উদ্দেশ্যে লাইসেন্স প্রদানের জন্য একটি আবেদন করা হইয়াছে যাহা সীমাবদ্ধ দায় সহ লিমিটেড অথবা প্রাইভেট লিমিটেড কথা বাদ দিয়া নথিভুক্ত করা হইবে। ২) এই কোম্পানির প্রধান কার্যাবলী হইতেছে বিজ্ঞানের উন্নতির জন্য মহাকাশ গবেষণা। এতদমর্মে ইহা বিজ্ঞাপিত করা হইতেছে যে, উক্ত প্রস্তাবিত কোম্পানির খসরা মেমোরান্ডাম এবং আর্টিকেলস অফ অ্যাসোসিয়েশনের একটি অনুলিপি এইচ এ ৩২৬/৭ সল্টলেক, কলিকাতা: ৯৭ এই ঠিকানায় পরিদর্শনের জন্য রক্ষিত আছে। ৩) ইহা আরও বিজ্ঞাপিত করা হইতেছে যে যদি কোনও ব্যক্তি, সংস্থা বা কোম্পানির এই আবেদনের বিরুদ্ধে বক্তব্য থাকে তাহা হইলে এই বিজ্ঞপ্তি প্রকাশের ৩০ দিনের মধ্যে লিখিতভাবে পূর্বাঞ্চলের আঞ্চলিক অধিকর্তা, কোম্পানি আইন বিষয়ক, কলিকাতা অবস্থিত, ২৩৪/৪ এ জে সি বোস রোড, নিজাম প্যালেস, ৩য় তল, কলিকাতা ৭০০ ০২০ নিকট জানাইতে হইবে।

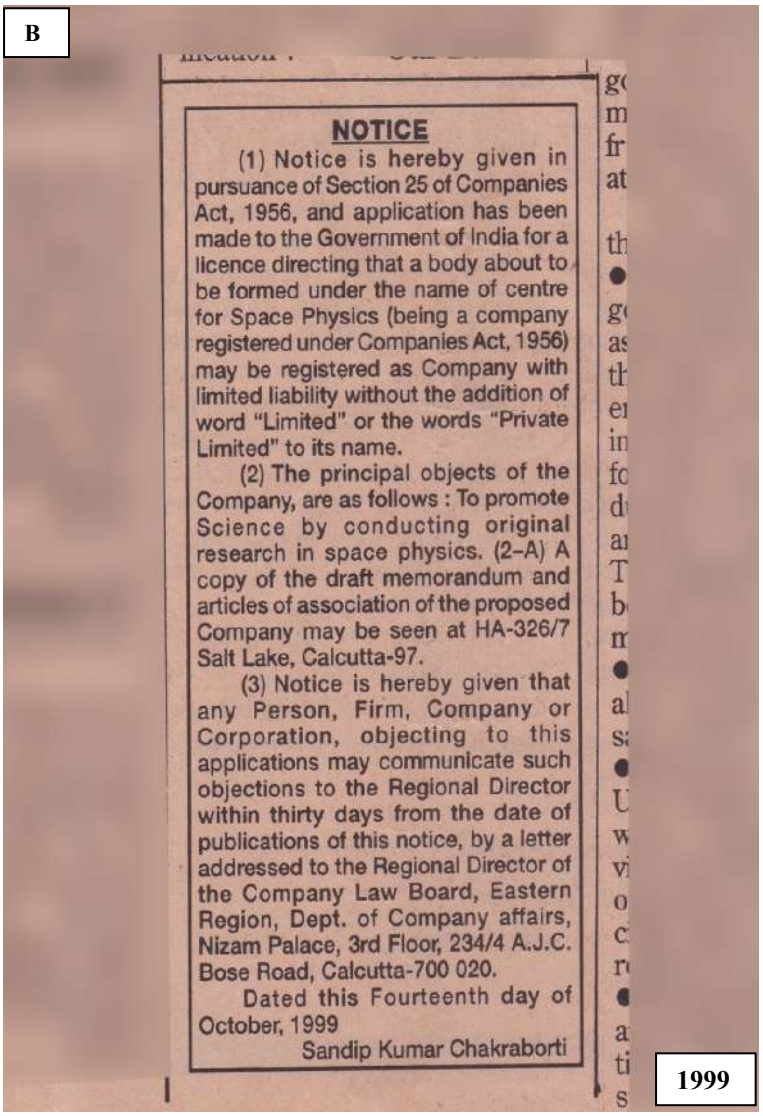
তাং ১৪.১০.৯৯

সন্দীপকুমার চক্রবর্তী

1999

Bengali Newspaper: AajKaal

B



NOTICE

(1) Notice is hereby given in pursuance of Section 25 of Companies Act, 1956, and application has been made to the Government of India for a licence directing that a body about to be formed under the name of centre for Space Physics (being a company registered under Companies Act, 1956) may be registered as Company with limited liability without the addition of word "Limited" or the words "Private Limited" to its name.

(2) The principal objects of the Company, are as follows : To promote Science by conducting original research in space physics. (2-A) A copy of the draft memorandum and articles of association of the proposed Company may be seen at HA-326/7 Salt Lake, Calcutta-97.

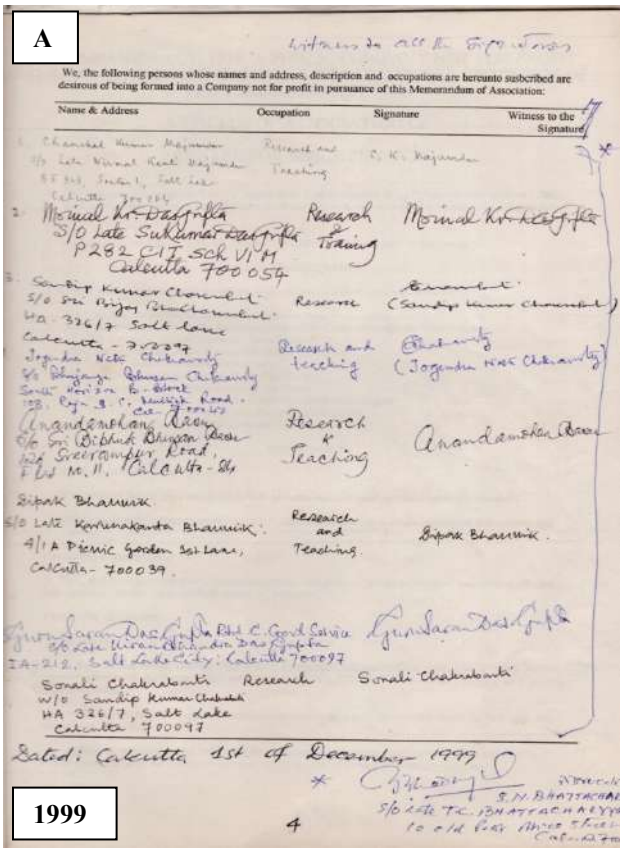
(3) Notice is hereby given that any Person, Firm, Company or Corporation, objecting to this applications may communicate such objections to the Regional Director within thirty days from the date of publications of this notice, by a letter addressed to the Regional Director of the Company Law Board, Eastern Region, Dept. of Company affairs, Nizam Palace, 3rd Floor, 234/4 A.J.C. Bose Road, Calcutta-700 020.

Dated this Fourteenth day of October, 1999

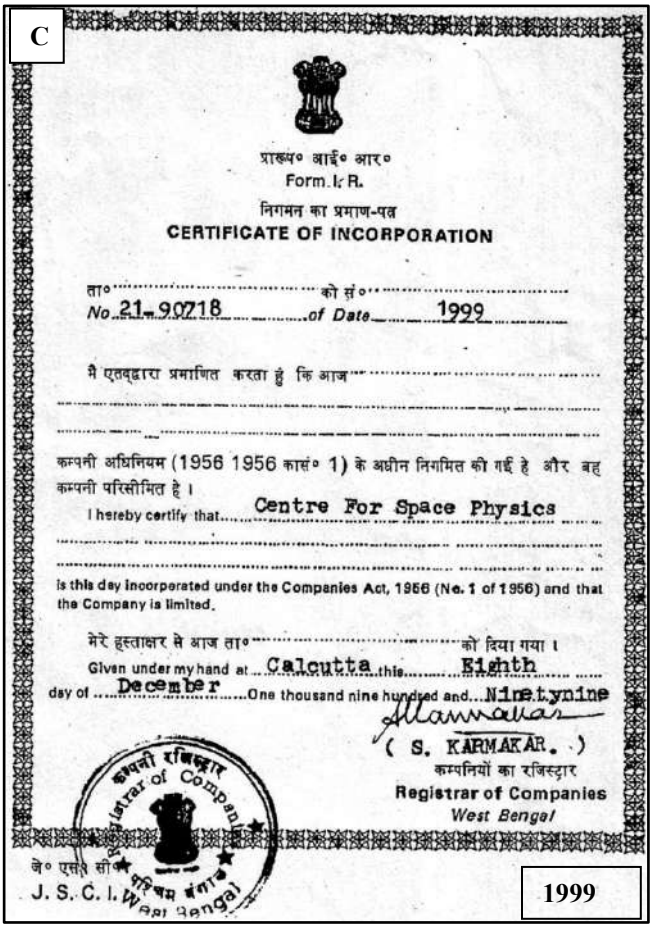
Sandip Kumar Chakraborti

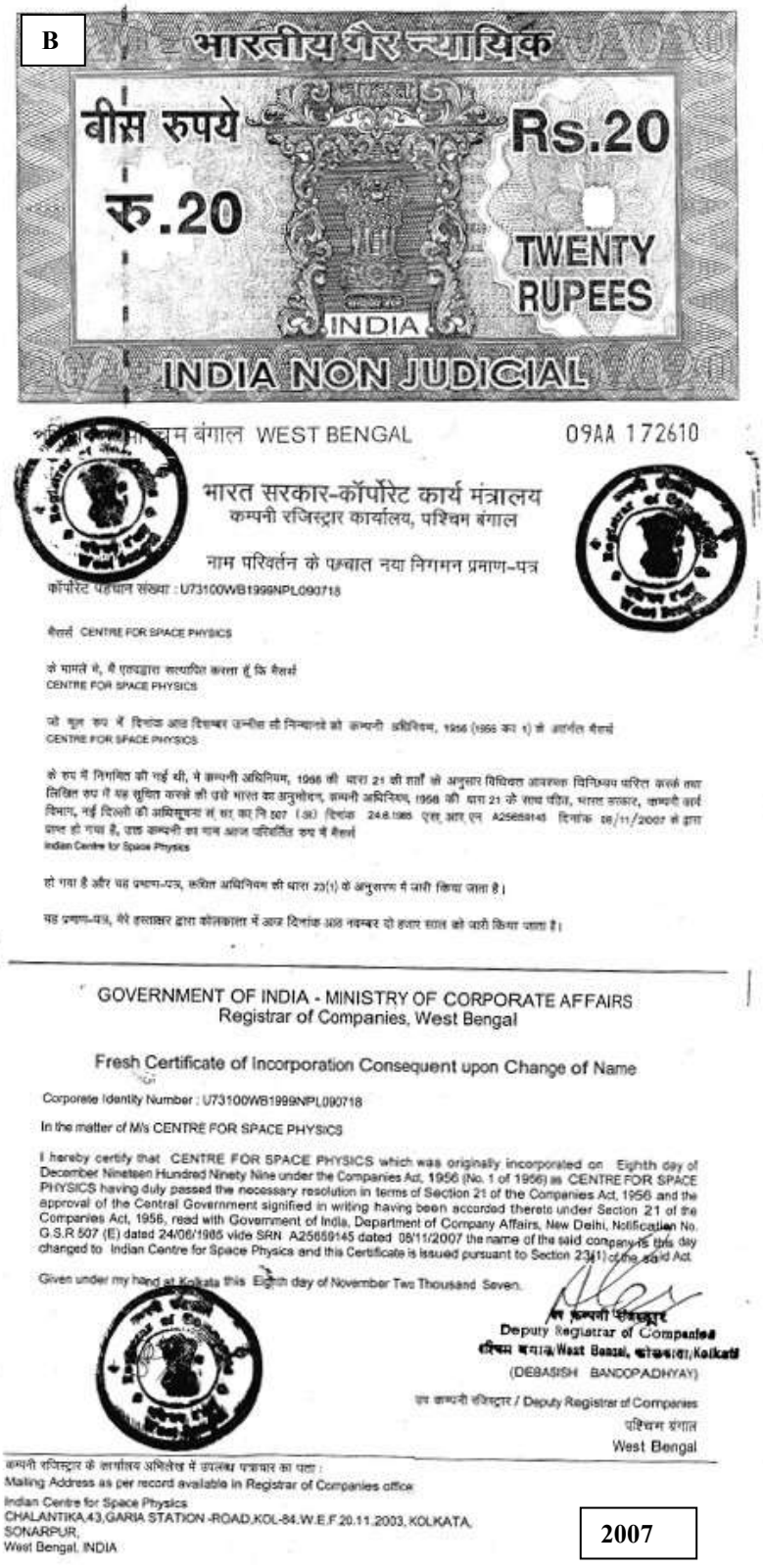
1999

English Newspaper: Business Standard



Signature page of Memorandum of Association.





C: Original Registration Certificate. B: Current Registration Certificate

Centre for Space Physics became Indian Centre for Space Physics in 2007

Founder Members with their designation as in 1999

Prof.C.K. Majumdar
President

Prof. J.N. Chakravorty
Vice-President

Prof. S. K .Chakrabarti
Secretary

Dr. D. Bhowmick
Treasurer

Prof. A. M. Basu
Member

Prof. M. K. Dasgupta
Member

Prof. S. Chakrabarti
Member

Mr. G. Dasgupta
Member

Past Presidents of the Centre

Late Prof. C. K. Majumdar
(1999-2000)

Late Prof. S. P. Sengupta
(2000-2006)

Late Prof. U.R. Rao
(2006-2007)

Prof. B. B. Bhattacharyya
(2007-2023)

Other Past Members of the Governing Body

1. Dr. Asish Das Gupta (2005 – 2011)
2. Dr. P.K. Das Poddar (2005 – 2011)
3. Prof. Arun K. Tiwari (2011 – 2021)
4. Mr. Pranabananda Bandyopadhyay (2012–2014)
5. Mr. Prabir Kumar Das (2016 –2020)

Present Governing Body Members of the Centre

Prof. Subrata Kumar Midya
(Vice President)

Prof. Sonali Chakrabarti
(Secretary)

Mr. Sujoy Kumar Maiti
(Treasurer)

Dr. Subhas Chandra Chakaravarty
(Member)

Prof. Arikkala Raghurama Rao
(Member)

Prof. Sandip Kumar Chakrabarti
(Member)

Mr. Gautam Banerjee
(Member)

Group Captain Krishnendu Kumar Kundu
(Member)

Life Members of the Centre till Date

Sl. No	NAME	DESIGNATION
1	Late Prof. C. K. Majumdar	Member
2	Dr. Dipak Bhowmick	Member
3	Late Prof. J.N. Chakraborty	Member
4	Late Mr. Gurusaran Dasgupta	Member
5	Prof. Sandip Kumar Chakrabarti	Member
6	Dr. Sonali Chakrabarti	Member
7	Dr. Pabitra Kumar Jana	Member
8	Dr. Abhijit Bhattacharya	Member
9	Mr. Subrata Burai	Member
10	Dr. Kinsuk Acharya	Member
11	Dr. Gautam Tarafdar	Member
12	Dr. Subrata Kumar Midya	Member
13	Prof. Tushar Kanti Das	Member
14	Mr. Rana Khan	Member
15	Mr. Biswajit Bose	Member
16	Mr. Asit Choudhury	Member
17	Prof. Achintya Chatterjee	Member
18	Mr. Nil Madhav Nandi	Member
19	Prof. Surya K Burman	Member
20	Mr. Govinda Mondal	Member
21	Mr. Zahirul Islam	Member
22	Dr. Samir Mandal	Member
23	Dr. Anuj Nandi	Member
24	Dr. Vipin K Yadav	Member
25	Mr. Santanu Deb	Member
26	Dr. Himangsu Sarkar	Member
27	Mr. Subhankar Das	Member
28	Dr. Ankan Das	Member
29	Dr. Ritabrata Sarkar	Member
30	Dr. Himadri Ghosh	Member
31	Dr. Sabyasachi Pal	Member
32	Dr. Dipak Debnath	Member
33	Dr. Sujay Pal	Member
34	Dr. Sudipta Sasmal	Member
35	Dr. Liton Majumder	Member
36	Mr. Debashis Bhowmick	Member
37	Late Prof. S. P. Sengupta	Member
38	Dr. Rabindranath Chattopadhyay	Member
39	Mr. Utpal Chatterjee	Member
40	Mrs. Sutapa Chatterjee	Member
41	Prof. Ananda Mohan Basu	Member
42	Mr. Anirban Majumder	Member
43	Dr. Suman Ray	Member
44	Md. Washimul Bari	Member
45	Mr. Bakul Das	Member
46	Dr. Broja Gopal Dutta	Member

Our founder and his background

A

B

C

D

E

F

G

H

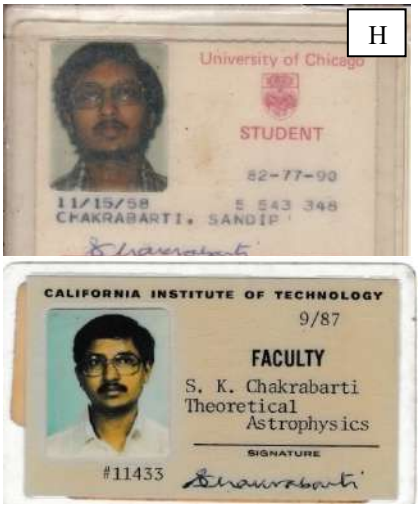
I

J **Astronomy Ranking by Stanford University updated in 2023 (October)**

Name	Institute	No. of papers	World rank in all subjects	Composite Score
Chakrabarti, Sandip K.	**Indian Centre for Space Physics**	410	32,037	3.8838
[illegible]	[illegible]	113	50,589	3.7458
[illegible]	[illegible]	203	72,767	3.6242
[illegible]	[illegible]	216	81,521	3.5847
[illegible]	[illegible]	242	91,991	3.5417
[illegible]	[illegible]	134	94,066	3.5335

A – D: with the former Presidents of India – Shri R. Venkatraman, Shri Shankar Dayal Sharma, Dr. A. P. J. Abdul Kalam, and Shri Ram Nath Kovind
E: Receiving Banga Ratna
F: Receiving DSc (Hon.Causa). from the Honorable Governor at UGB convocation
G: Other recipients of the D.Litt.
H-I: Receiving Mahatma Gandhi Award from Honorable Ex-Speaker M. S. Meira Kumar
J: Ranked as the topmost astrophysicist in India as per Stanford University Survey

Founder has been in the Company of the Super Giants



***A–C**: With Nobel Laureates Prof. S. Chandrasekhar (mentor at the University of Chicago), Prof. K. S. Thorne (mentor at Caltech), and Prof. R. Giacconi (ICRANet, Pescara).*
***D and E**: With R. Sunyaev, L. Titarchuk, W. D. Arnett, and R. P. Kerr.*
***F**: Showing R. Penrose some specific exhibits on S. Chandrasekhar from SKC collection at the Science City exhibition*
***G**: First day as a graduate student at the University of Chicago (1981). White arrow: S. K. Chakrabarti; Green arrow: Would be NASA astronaut John Grunsfeld; Yellow arrow: Joe Incandela, now at Stanford University, was the spokesperson for the Higgs Boson discovery team*
***H**: ID cards of Prof. S .K. Chakrabarti.*

Meetings with the Chairmen of ISRO and MoES

A

B

C

D

***A**: With ex-ISRO Chairman Dr. U.R. Rao during his visit to the ICSP campus.*
***B**: With Ex-ISRO Chairmen Dr. K. Radhakrishnan (in black), Dr. G. Madhavban Nair (in the blue shirt), Dr. U. R. Rao (in maroon shirt) at a meeting on Chandrayaan-1.*
***C**: With Ex-ISRO Chairman Shri. A. S. Kiran Kumar during his visit to the ICSP Laboratory.*
***D**: With Dr. Sailesh Naik (Secretary, MoES; Interim Chief, ISRO) and Dr. P. S. Goel (Ex-Secretary, MoES; extreme right) during the ceremony recommending takeover of ICSP by MoES.*

Present Academic Members of the Centre

Prof. S. K. Chakrabarti
(Director and Distinguished Professor)

Dr. S. Palit
(Assistant Prof. – II)

Dr. T. Basak
(Assistant Prof. – II)

Dr. D. Bisht
(Assistant Prof. – I)

Dr. P. Nandi
(Scientist - C)

Dr. S. Saha
(Scientist- C)

Present Technical and Non- Academic staff of the Centre

Mr. D. Bhowmick
(Engineer – II and Estate Officer)

Mr. H. Roy
(Lab Assistant)

Mr. R. Maiti
(Executive Officer)

Mr. J. Maitra
(Computer Assistant)

Mr. U. Sardar
(Office Helper)

Mr. B. Bhandari
(Office Helper)

Mr. B. Chakraborty
(Security)

Mr. V. Singh
(Security)

Mr. R. Paul
(Security)

Mr. S. Das
(Caretaker)

Mr. J. Shee
(Caretaker)

Mr. K. Midya
(Cleaner)

Past Technical and Non-Academic Members of the Centre

Mr. P. Nandi
(Engineer)

Mr. A. Dhar
(Engineer)

Mr. I. Laha
(Engineer)

Mr. S. Mondal
(Engineer)

Mr. S. Chakraborty
(Engineer)

Mr. A. Bhattacharya
(Engineer)

Mr. S. Midya
(Tech. Assistant)

Mr. S. Manna
(Tech. Assistant)

Mr. S. Chakraborty
(Accountant)

Mr. R. C. Das
(Office Assistant)

Mr. Parimal Das
(Security)

Mr. Sudipta Paik
(Scientist A)

Mr. Rehanul Haque
(Site Engineer cum Store Keeper)

Honorary Faculty Members of ICSP

1. Dr. B. B. Bhattacharyya, Ex-ISM, Dhanbad	Distinguished Professor
2. Dr. Shalivahan, IIT Dhanbad	Professor
3. Dr. S. Sharma Ex-SNBNCBS	Professor
4. Dr. S. Chakrabarti, M. M. Chandra College	Professor
5. Dr. S. C. Chakravarty, EX-ISRO	Senior Professor
6. Dr. A. K. Chatterjee, Malda College	Scientist
7. Dr. R. Chattopadhyay, Haripal Institution	Scientist
8. Dr. T. K. Das, Narasimha Dutta College	Assoc. Professor
9. Dr. P. K. Jana, Panipukur B.Ed. College	Scientist
10. Dr. M. M. Majumdar, DPI	Scientist
11. Prof. S. K. Midya, Calcutta University	Professor
12. Dr. G. Tarafdar, Barasat Govt. College	Scientist
13. Dr. B. G. Dutta, R.B.C. College	Scientist
14. Dr. S. K. Mondal, S-K-B University	Scientist
15. Dr. H. Ghosh, Abhedananda Mahavidyalaya	Scientist
16. Dr. K. Giri, NITTTR, Kolkata	Scientist
17. Dr. S. Ray, G.H. College	Scientist
18. Dr. S. Pal, Medinipur City College	Scientist
19. Dr. A. K. Choudhury	Scientist
20. Dr. M. Dikpati, NCAR, USA	Adjunct Professor
21. Dr. A. Raj	Associate Professor

Evolution of Our Logo

1999-2002

2002 - 2006

2006-2007

2007- 2010

2010 – present

Designed by Prof. Sandip K. Chakrabarti

Designed by Dr. Tilak Kotach
(Presently at TIFR)

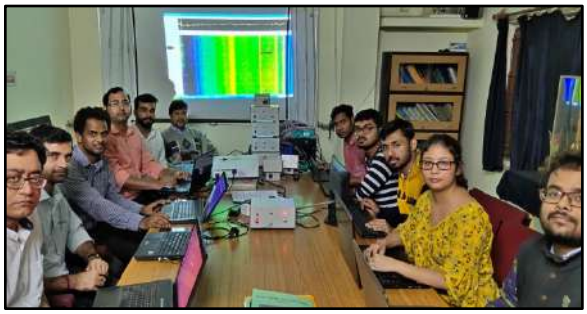
Change of our address over the years

Official address of HQ of CSP/ICSP: HA-326/7: December, 1999-March 2000 (Left). IA-212:April 2000 to October, 2000 (Middle). November 2000 to October 2001: 114/V/1A Raja S.C. Mullick Road (Right).

November 2001-October 2003: P-61 Southend Gardens (Left). Research area of the students (Middle & Right).

November 2003-November 2022: 43 Chalantika Garia.
Centre for Space Physics (Left). Indian Centre for Space Physics (Right)

Computer room



Seminar Room


Since December 2022: Main Campus, 466 Barakhola, Netai Nagar Kolkata (Left). Students room (Middle). JNC Auditorium (Right).

Evolution of the Campus of the Centre on the Eastern Bypass



(Left) Possession of the land (2004). (Middle) Marking the land (2004). (Right) Starting of the boundary wall (2004)


Boundary wall being erected (2005) ***First entrance gate of Integrated Campus (2005)***

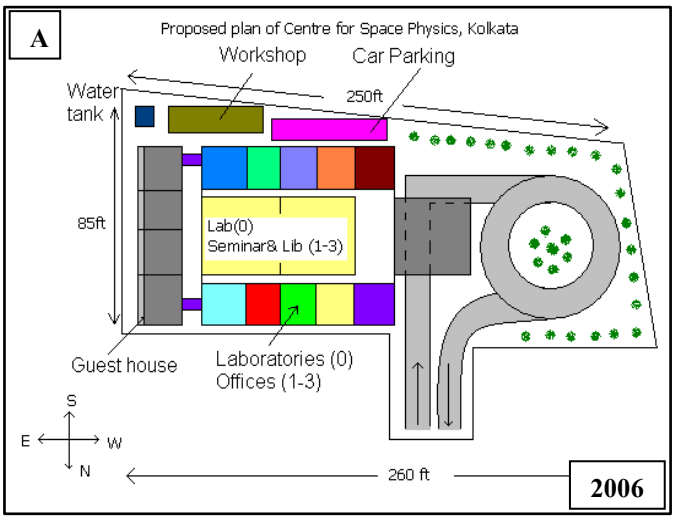
Campus with boundary wall (Left). Governing Body meeting held at integrated campus 2005 (Right).

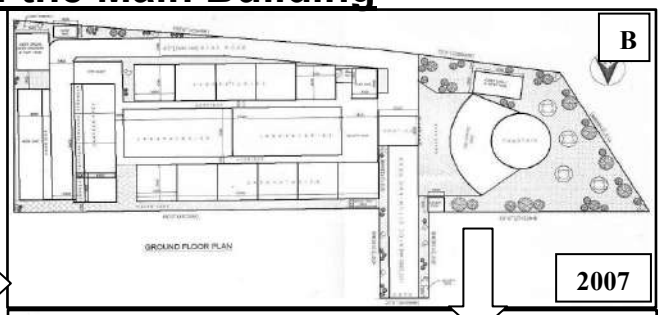
(Left to Right) Prof. J.N. Chakravorty, Dr. D. Bhowmick, Mr. G. Dasgupta, Mr. R. Das, Prof. S. K. Chakrabarti, Dr. U.R. Rao at a tree planting Program at the main campus (2006)

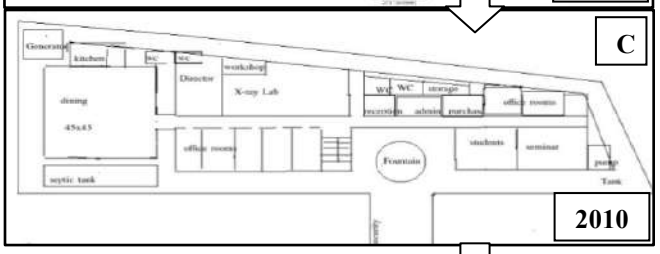
(Left to Right) Dr. V. Yadav, Dr. L Titarchuk, Prof. R. Sunyaev, Dr. U. Desai, Prof. S. K. Chakrabarti, Dr. A. Nandi (2007)

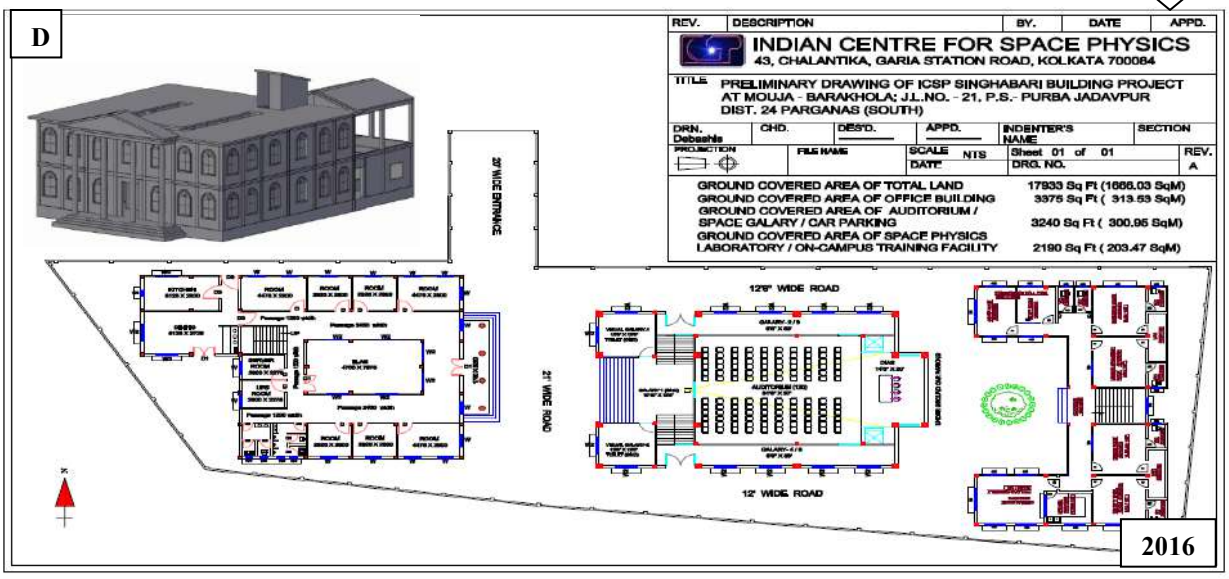
Inspection of the land by Governing Body Members. At the background, Metro Cash and Carry being constructed.

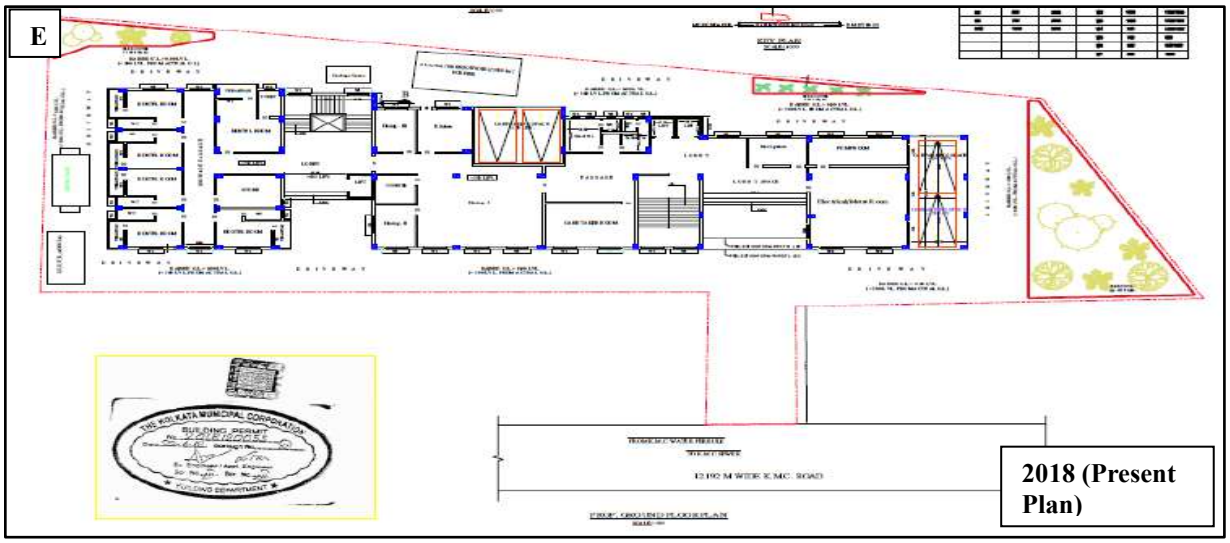
Evolutions of Floor Plans of the Main Building











Evolution of the surroundings from Google Map

2004

2014

2024

Foundation Ceremony on 15th November 2018

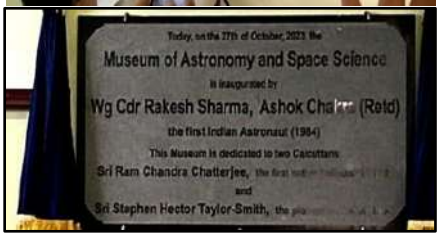
National and International Dignitaries present at the Foundation Ceremony (15.11.2018) of the Main Building

E: Construction works began by breaking a coconut; F: Construction works inspected by the Governing Body

Inauguration of the Main Building

A: Entrance of the Building. B: Inauguration of the main building on 17th February 2024

Inauguration of Museum of Astronomy and Space Science, JNC Auditorium and Cygnus Cafeteria



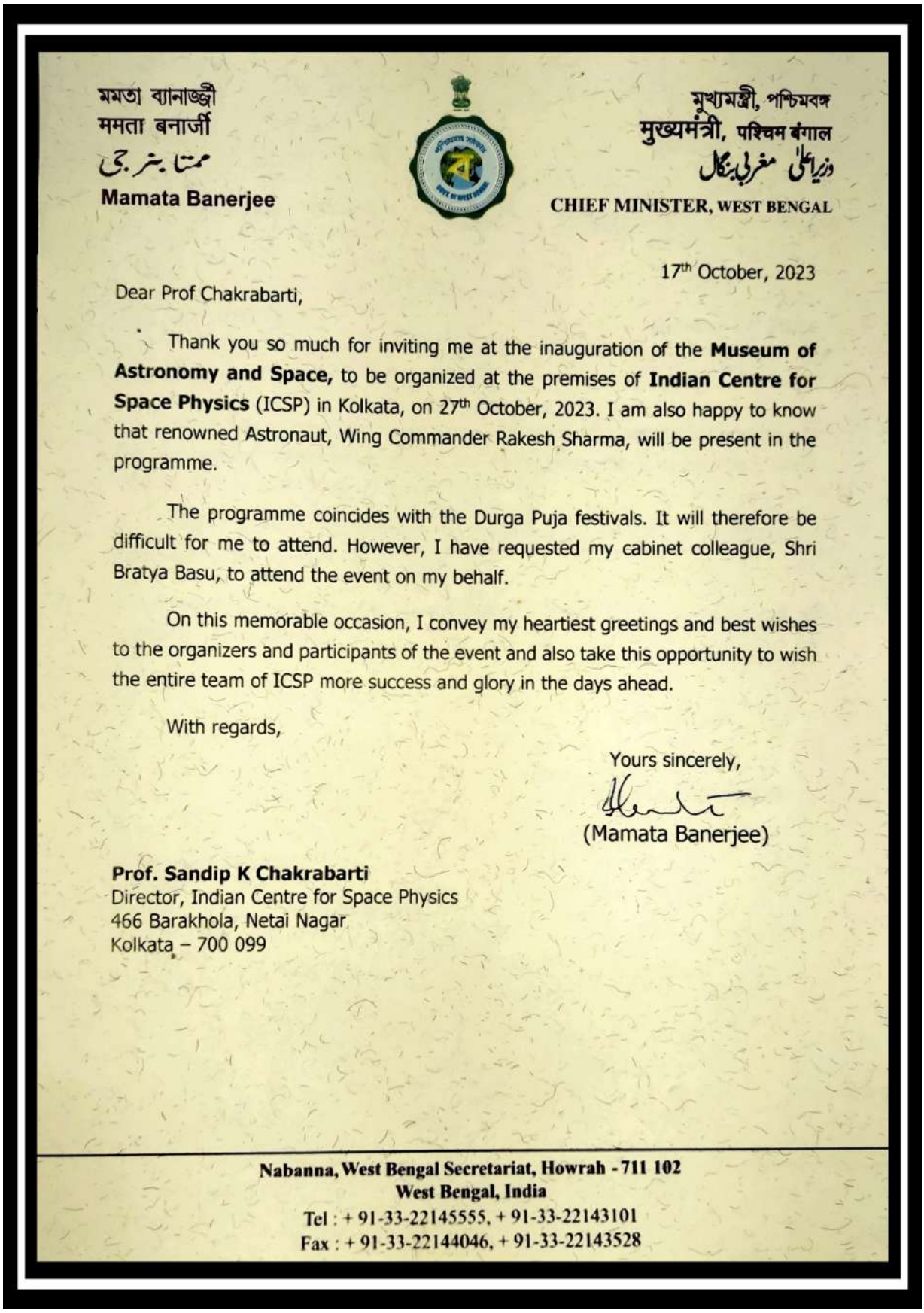
C-D: Inaugural stone of the museum. The Museum is being inaugurated by Indian Astronaut Wg Cdr Rakesh Sharma, Ashoka Chakra (Retd.), E: Exhibits are seen by Wg Cdr Sharma and Mr. Bratya Basu, Education Minister of West Bengal, F-I: Some exhibits of the museum

A –F: Various halls of the Museum G: Stall of the Museum

H-I: 240 capacity JN Chakravorty Lecture Hall Inaugurated by Prof. S.C. Chakravarty;

J-K: Cygnus Hall Inaugurated by Prof. A.R. Rao

Appreciation Letter from the Honorable Chief Minister of West Bengal for the Museum



মমতা ব্যানার্জী
ममता बनार्जी
ممتا بنرجی
Mamata Banerjee

मुख्यमंत्री, पश्चिमबंग
मुख्यमंत्री, पश्चिम बंगाल
وزیراعلیٰ مغربی بنگال
CHIEF MINISTER, WEST BENGAL

17th October, 2023

Dear Prof Chakrabarti,

Thank you so much for inviting me at the inauguration of the **Museum of Astronomy and Space,** to be organized at the premises of **Indian Centre for Space Physics** (ICSP) in Kolkata, on 27th October, 2023. I am also happy to know that renowned Astronaut, Wing Commander Rakesh Sharma, will be present in the programme.

The programme coincides with the Durga Puja festivals. It will therefore be difficult for me to attend. However, I have requested my cabinet colleague, Shri Bratya Basu, to attend the event on my behalf.

On this memorable occasion, I convey my heartiest greetings and best wishes to the organizers and participants of the event and also take this opportunity to wish the entire team of ICSP more success and glory in the days ahead.

With regards,

Yours sincerely,

(Mamata Banerjee)

Prof. Sandip K Chakrabarti
Director, Indian Centre for Space Physics
466 Barakhola, Netai Nagar
Kolkata – 700 099

Nabanna, West Bengal Secretariat, Howrah - 711 102
West Bengal, India
Tel : + 91-33-22145555, + 91-33-22143101
Fax : + 91-33-22144046, + 91-33-22143528

Sponsored Halls of ICSP

A: "J.N. Chakravorty Lecture hall" sponsored by Mrs. M. Chakraborty and Dr. S. Chakrabarti. B: "Swami Vireswarananda Gallery" sponsored by Prof. Rajagopal Chattopadhyay

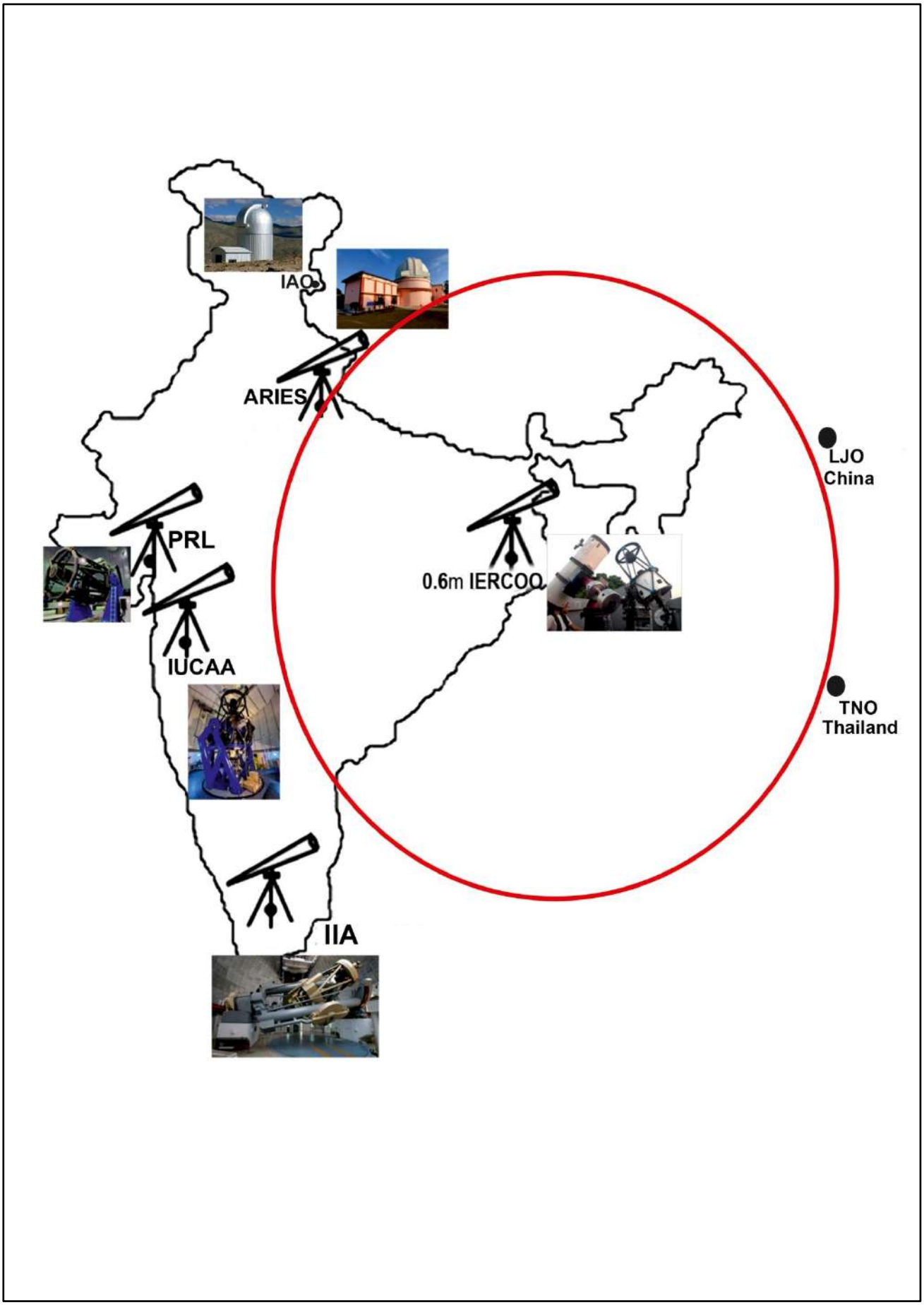
C: "S.S. Dikpati Lecture hall" sponsored by Prof. M. Dikpati; D: Mini Space Theater "Aruna" sponsored by Prof. B. Mukhopadhyay

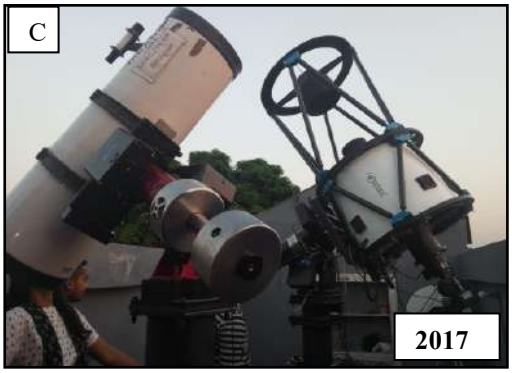
The Space museum is benefited from the donations of many exhibits by Mrs. Adrija Banerjee; Mr. Pulakesh Bhattacharyya; Prof. Kip Thorne, Caltech; Dr. John Mather, NASA; Prof. Philippe Laurent, Saclay, France; Prof. Rajagopal Chattopadhyay; Dr. Sonali Chakrabarti; Prof. J.V. Narlikar; Prof. U. Desai; Astronaut Dr. John Grunsfeld; Wg Cdr Rakesh Sharma; Prof. Joe Incandela, Stanford Univ.; Prof. Roy Kerr; Grand Children of Prof. M.N. Saha and Prof. S.N. Bose; Mr. Anindya Dasgupta, son of Prof. M.K. Dasgupta; Mr. Atanu Ghosh, Son of Prof. S.N. Ghosh; Dr. J. Mukherjee, Director, NASA Florida Space Grant program; Mrs. R. Ramnath and Prof. S.K. Chakrabarti, Director, ICSP. Major satellite/plane models were constructed by ICSP engineering section: Mr. D. Bhawmick, Mr. H. Roy and Mr. U. Sardar.

Evolution of Sitapur Campus, West Medinipur

A: First VLF data taken from Sitapur village to test the Radio noise; B: The land was shown to Prof. S. K. Chakrabarti by Mr. N. Patra (extreme right). Mr. S. Burai, Mr. D Bhowmick and Mr. G. Dasgupta were also present. C: Land demarcation; D: Construction begins on 23rd January, 2011; E-J: Inauguration of IERC. K: Land filling. L: Main building completed; M: Dining Hall, N: Retractable roof of the observatory being constructed; O: Agreement to purchase the 24 inch telescope.

Major Telescopes in Indian Subcontinents





A: Telescope Optical tube being taken to the observatory, B: Telescope "Vasistha" (24 inch) being installed; C: Setup of Mead 10 Inch "Arundhati" is also completed; D: Director's/Visitors' hut; E: Foundation ceremony of "Dhruba" Guest house; F: Land filling G: "Dhruba" guest house with "Saptarshi" completed; H: Inauguration of "Dhruba" by Vice President of Governing Body Prof. S.K. Midya; I: IERCOO Campus at the scenic village of Sitapur. The names Vasistha, Arundhati, Dhruba, Saptarshi were chosen by the Director, Prof. S.K. Chakrabarti.

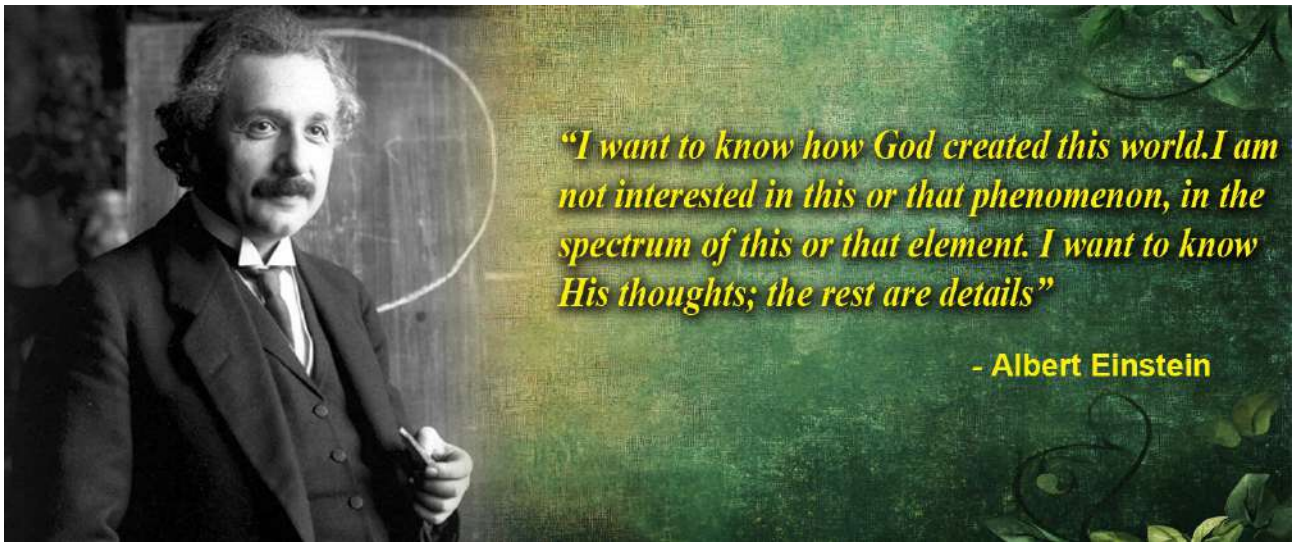
Ionospheric Research Centre, Malda

J: Inaugural stone laid by Shri A.B.A Gani Khan Chowdhury, Ex-Cabinet Minister from Malda
K: IRC Malda Inaugurated by Shri Tapan Sikdar, Ex-Cabinet Minister, L-N: IRC Malda branch office, Atul Chandra market, Malda

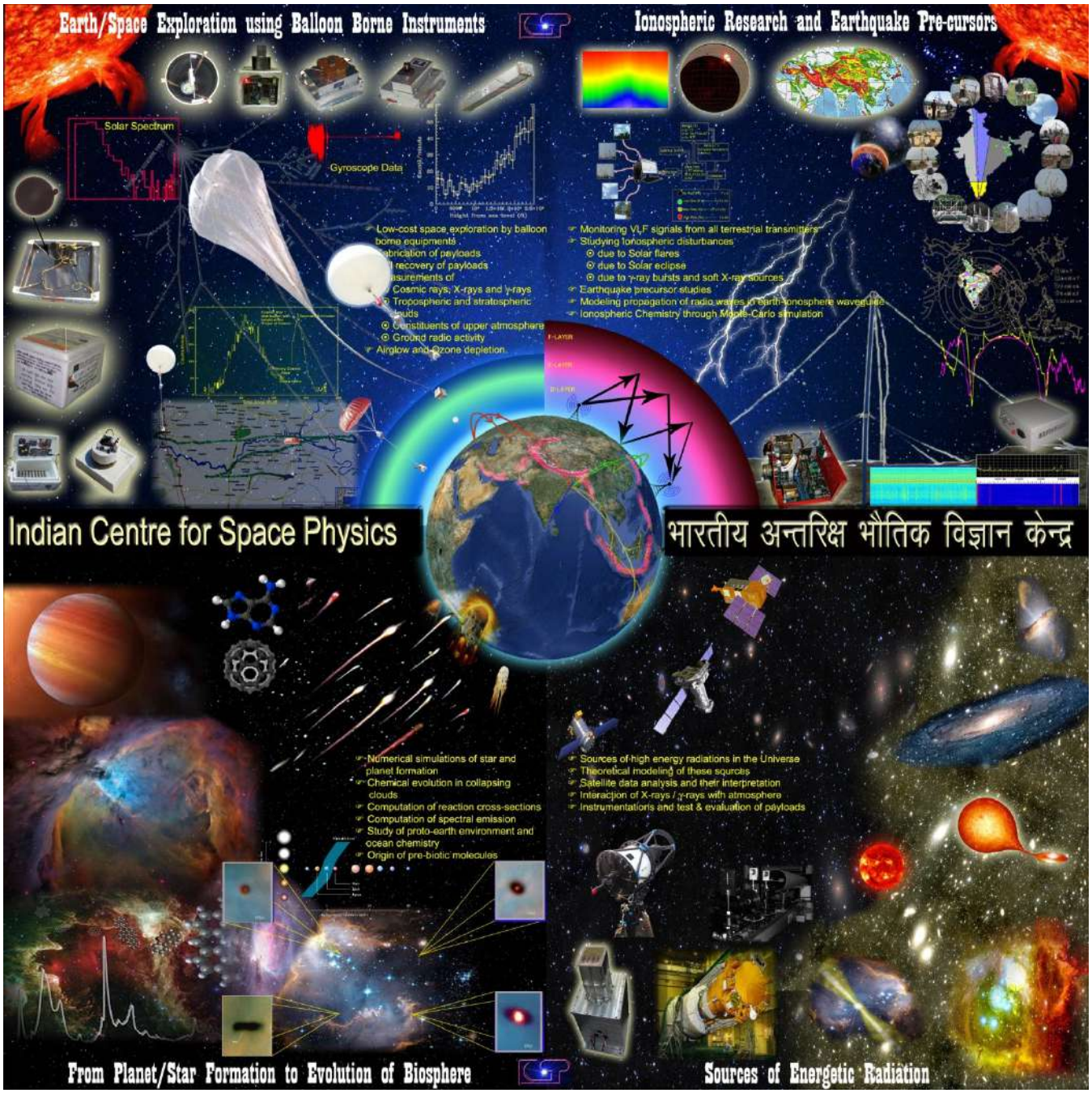
Stratospheric Research Centre and Balloon Facility, Birbhum

***A**: Stratospheric Research Centre of ICSP at Bolpur, Birbhum; **B**: The land registration process for ICSP Stratospheric Balloon Facility at Chandrapur (Birbhum).*

C-E: Foundation ceremony for the construction of the ICSP Stratospheric Balloon Facility (ISBF) in presence of the District Magistrate of Birbhum (2024); (F) Groundbreaking ceremony at ISBF, Chandrapur, Birbhum. G-H: Construction in progress at ISBF.

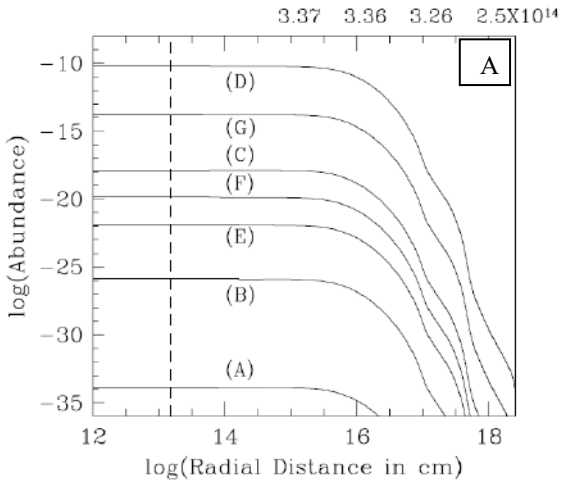

"I want to know how God created this world.I am not interested in this or that phenomenon, in the spectrum of this or that element. I want to know His thoughts; the rest are details"
- Albert Einstein

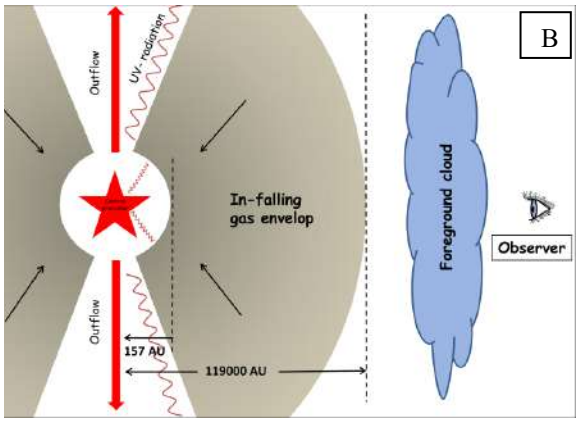
Major Scientific Activities of the Centre

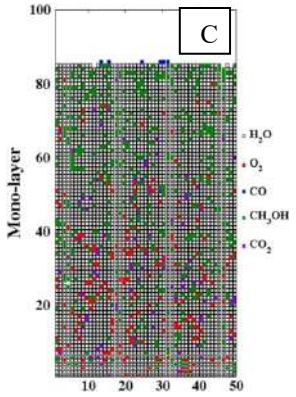


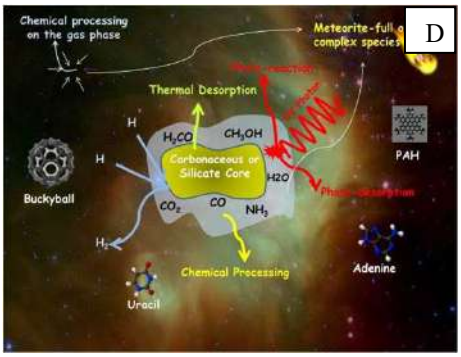
ICSP is proud to have very active research team members in five different sectors, namely, Space Science using balloon borne stratospheric experiments (top-left quarter); Study of the ionosphere using very low frequency radio waves (top-right quarter); Formation of complex bio-molecules during star formation and Origin of Life (bottom-left quarter); Optical Astronomy using 0.61 meter telescope and high energy Astrophysics around compact stars (bottom-right quarter). ICSP is expert in fabrication of instruments for the balloon borne stratospheric experiments; payloads for satellites, Receivers of radio signals in all wavelengths. It has launched 115 Stratospheric balloons. ICSP produced 48 PhDs and another 8 are at various stages of being supervised. Some details are given next in brief.

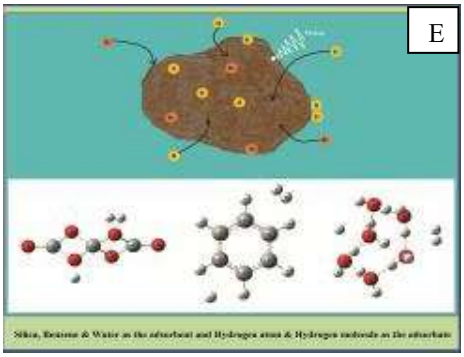
Astrobiology / Astrochemistry

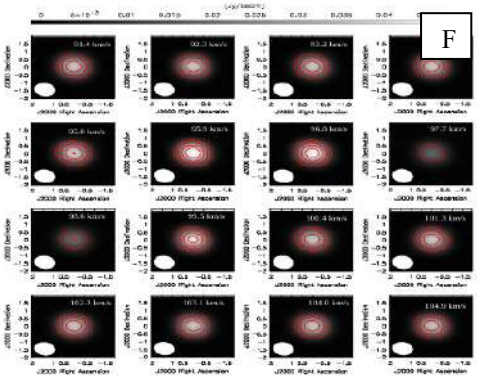


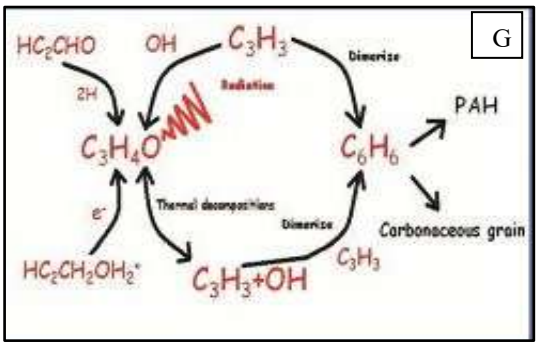


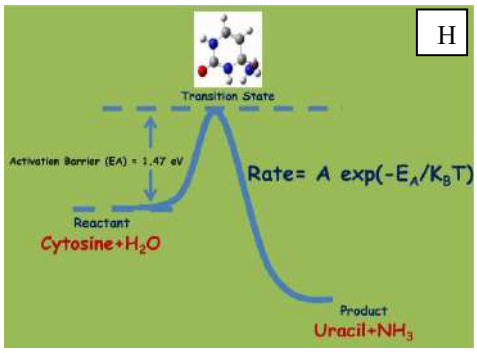


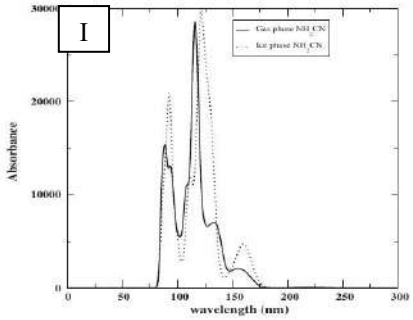


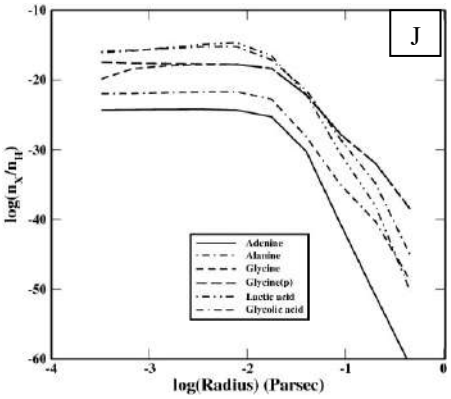


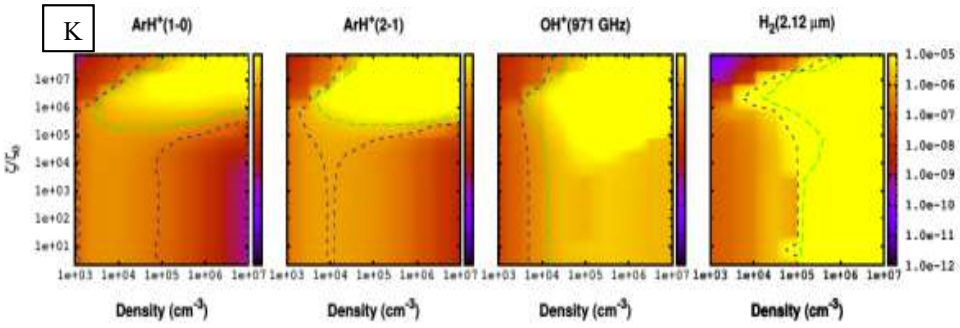






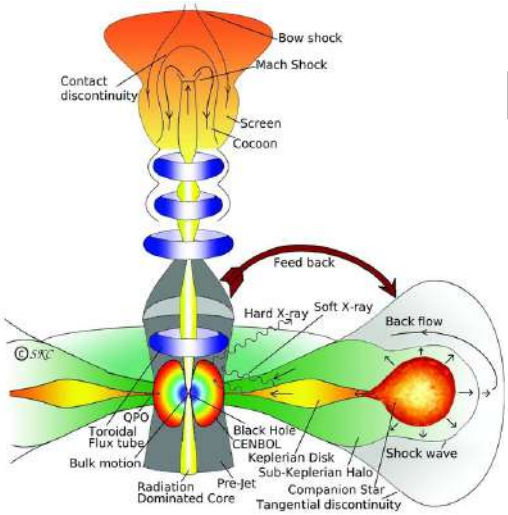


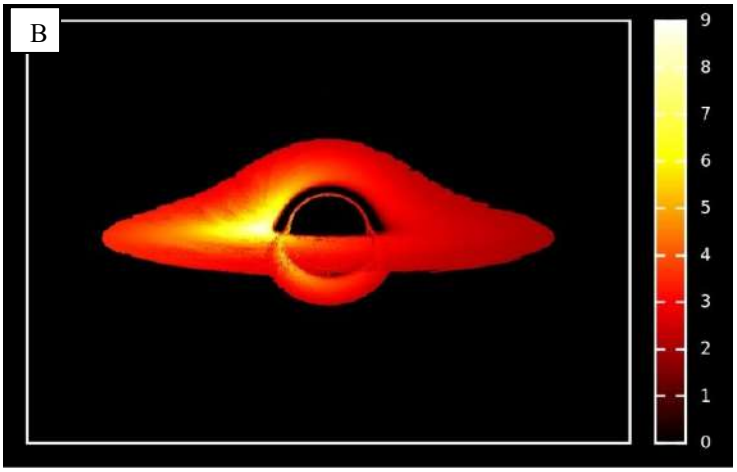


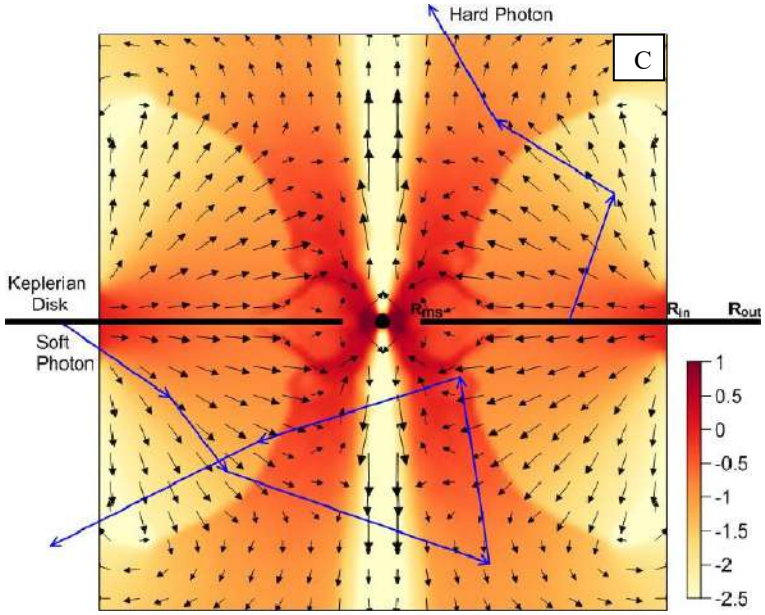


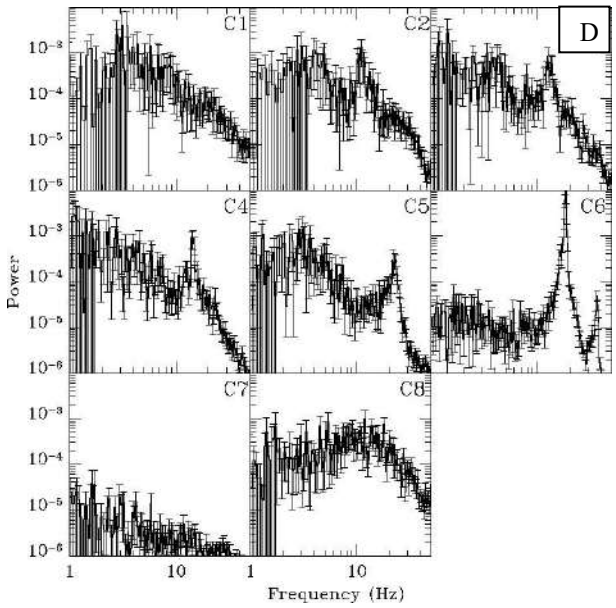
A major subject of interest is how the life originated on Earth and in the Universe. To this effect, the formation of the first bio-molecules during star formation was proposed (A) by Chakrabarti & Chakrabarti (2000) where it was shown that even constituents of DNA may be produced when a stellar system is borne through the collapse (B) of molecular clouds. A new subject began and today many observations indicate that the pre-cursors of the bio-molecules have been detected. About 10 PhD students have been produced by ICSP in this very exciting topic. The Figures above show how molecules are created in space through hydrodynamics and chemical reactions (C-H) inside the gas cloud in presence of grains (I-K).

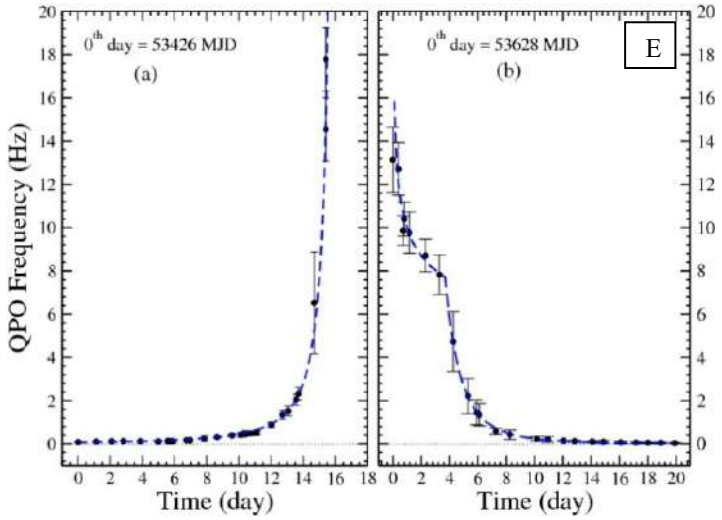
High Energy Astrophysics around Black holes

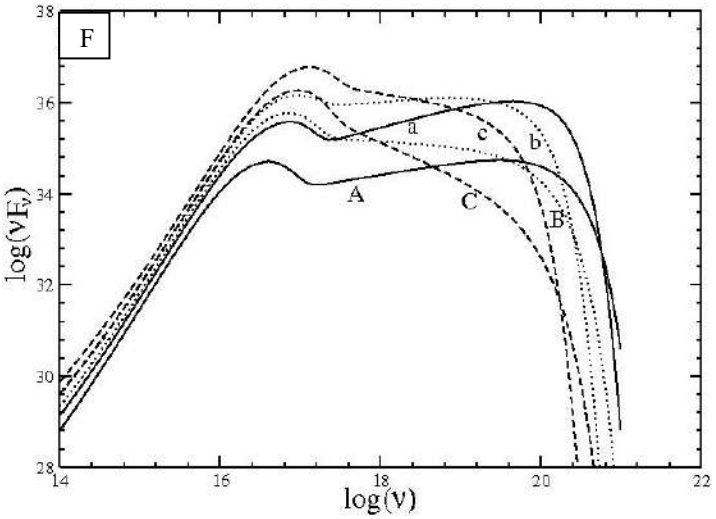




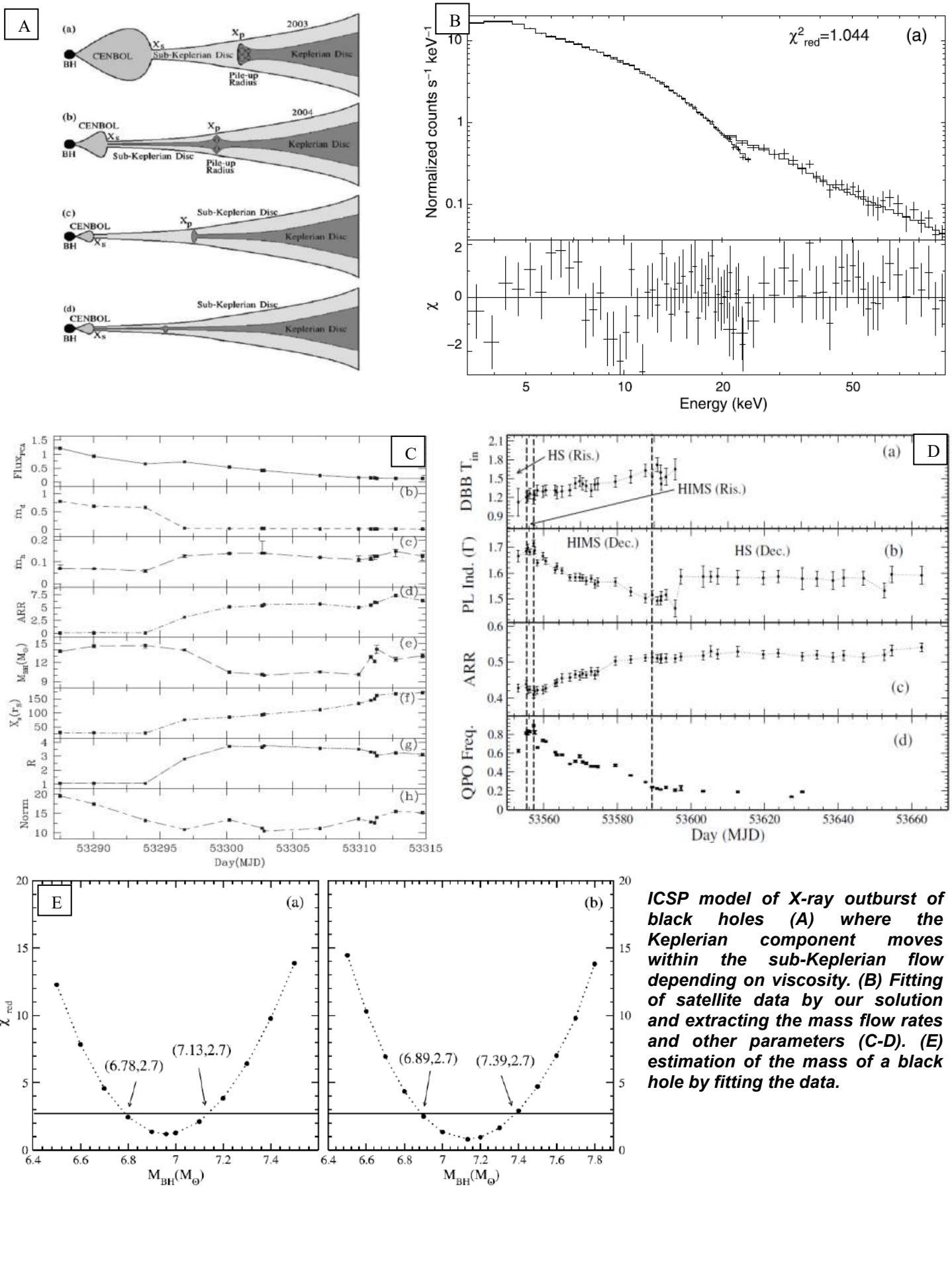








Two Component Advective flow (TCAF) model found its final shape (A) at ICSP and its numerical simulation (C). The spectrum (F) generated could fit the Satellite data and explain the Quasi-Periodic Oscillation (QPO) frequency variation (D-E) as matter moves towards the black hole. Our experts also use the photon bending by the black holes (B). About 20 students received PhD in this subject.

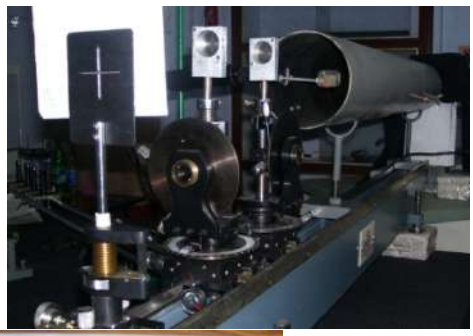


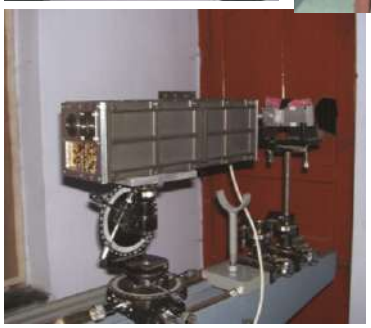
ICSP model of X-ray outburst of black holes (A) where the Keplerian component moves within the sub-Keplerian flow depending on viscosity. (B) Fitting of satellite data by our solution and extracting the mass flow rates and other parameters (C-D). (E) estimation of the mass of a black hole by fitting the data.

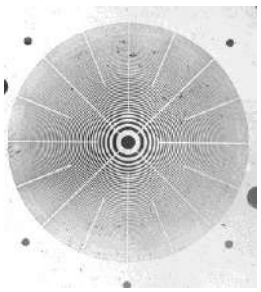
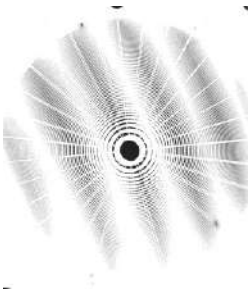
Instrumentation for Space Exploration

A) Instrumentation for Satellites

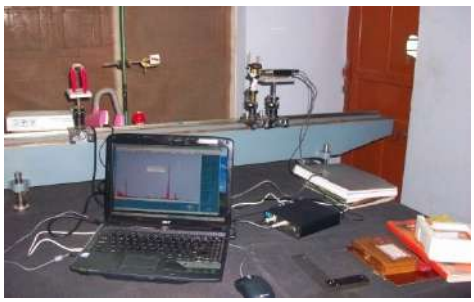













ICSP Director was the co-Principal Investigator of RT-2 payload fabrication, test and evaluation and data analysis for the Satellite CORONAS-PHOTON. Various stages activities are shown. The PI (gray shirt), Director of ISRO RESPOND (checked shirt) and the ISRO Chairman (blue shirt) in the bottom-right photo as they visit the laboratory.



Top-left: Meeting of the satellite team of ICSP with the ISRO Chairman U.R. Rao (blue shirt) at ICSP Seminar room. Top-middle: Meeting with the PI Prof. A.R. Rao on the progress of the payload testing. Top-right: ICSP scientist Dr. A. Nandi (2nd from left) during handing over of the payload to their Russian counterpart in Moscow. Left: TIFR and ICSP joint payloads are loaded on the Rocket before launching.

B) Instrumentation for Balloon borne experiments

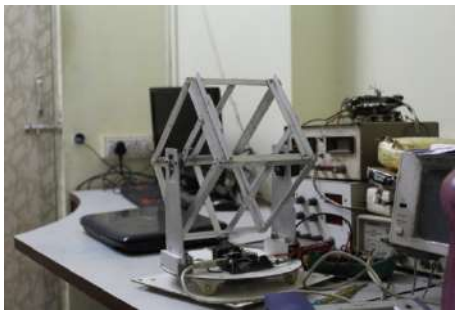




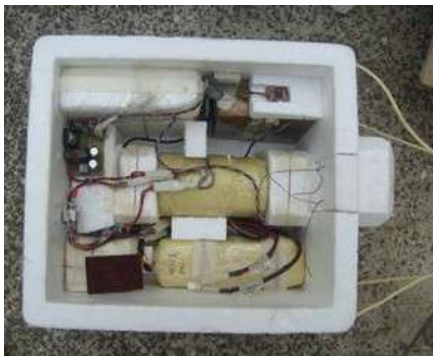





Various instruments are fabricated at ICSP laboratory to be flown to the Stratosphere by 100ft long Hydrogen filled balloons at a height of ~ 42 km. ICSP also made climate chambers to test payloads before launching.











Stages of completion of payloads with the main measurement unit with video cameras computer mother-boards, shielding of the payloads from low temperature of the stratosphere, pressure & temperature sensors, attitude calculations by nine degrees of freedom. Two students received PhD on the analysis of data obtained by our balloon borne payloads.

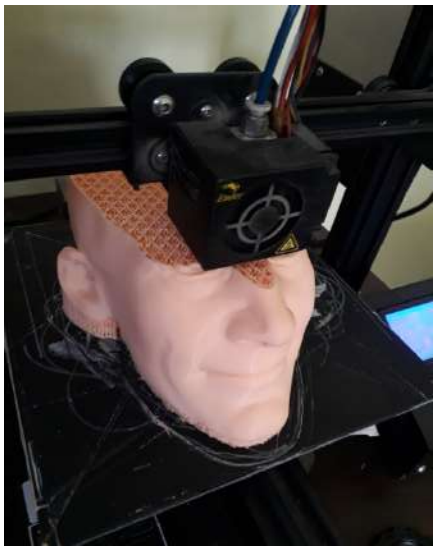
c) Instrumentation for VLF and Radio Astronomy

ICSP fabricates antennas and receivers for radio astronomy for the study of the celestial objects such as the Sun and Gamma Ray Bursts and their effects on the ionosphere. Figures above show loop antennas, dish antennas, pole antennas and the receivers. **Two element interferometer installed at sitapur campus (Bottom Right).** ***These are used for research activities. About ten students received PhD on the analysis of the Ionospheric data.***

(d) Instrumentation for Optical Astronomy

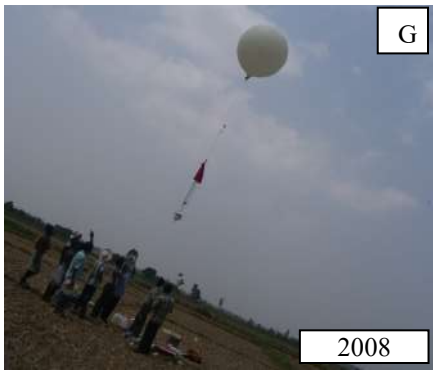
ICSP has been building 5 inch telescope both for popularization of these telescopes as well as for use in its public outreach programs which are held in Kolkata campus.

(e) Fabrication of Museum exhibits

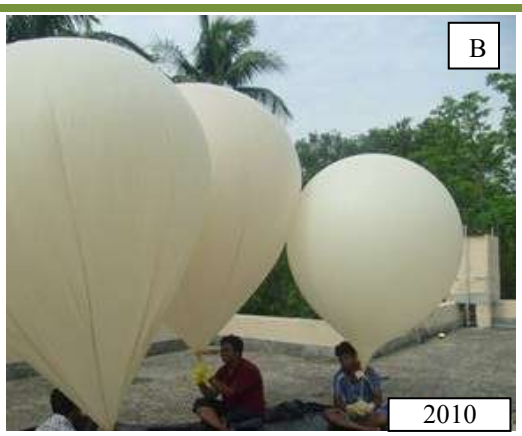


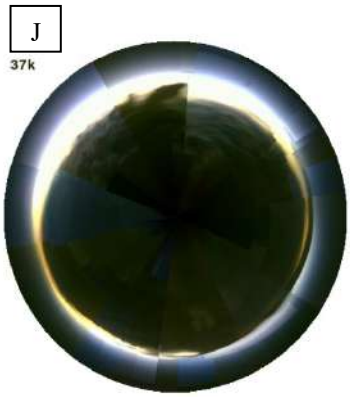
ICSP has fabricated all the satellite models, Wright Brothers' aeroplane, Apollo 11 Command module, about 100 research oriented posters for the Museum at its workshop. It has also made 3D printed models of eminent Astronomers, a 1:12 scaled model of the 30 meter telescope Foucault Pendulum, Gravity Table etc.

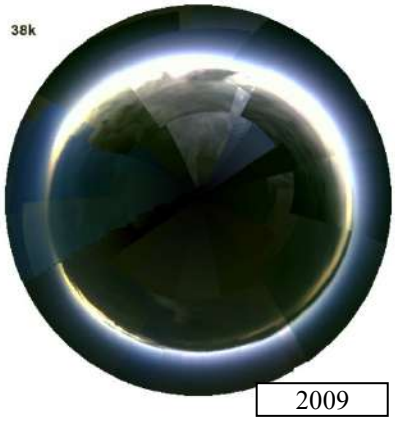
Balloon Borne Experiments



ICSP has independent space exploration program. It has used rubber and plastic balloons to take instruments to near space in Stratosphere at an altitude of 40-42km. These trips last for several hours. The main instrument measure X-rays from the Sun, black holes and neutron stars. So far 114 flights in Dignity Series were made.

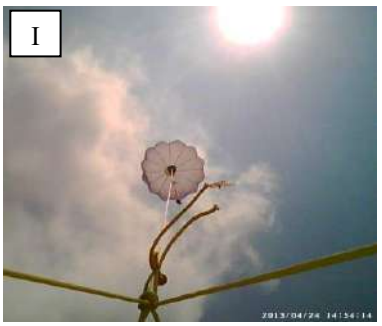


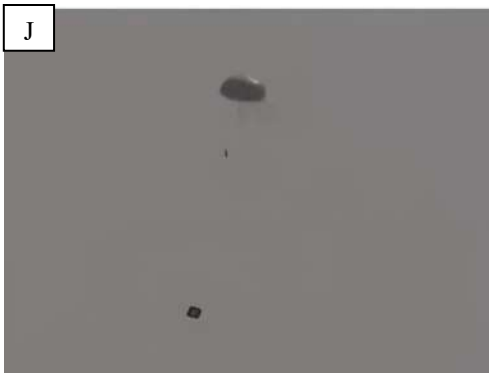


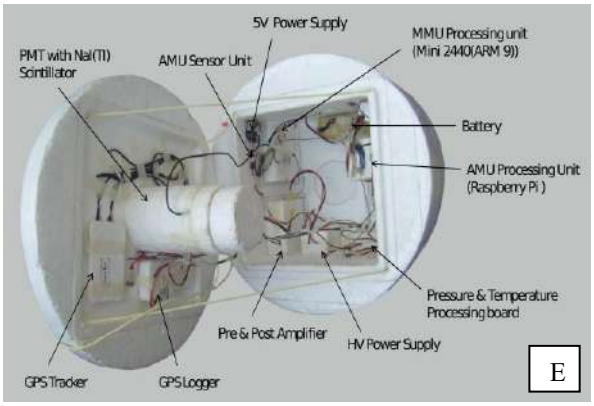


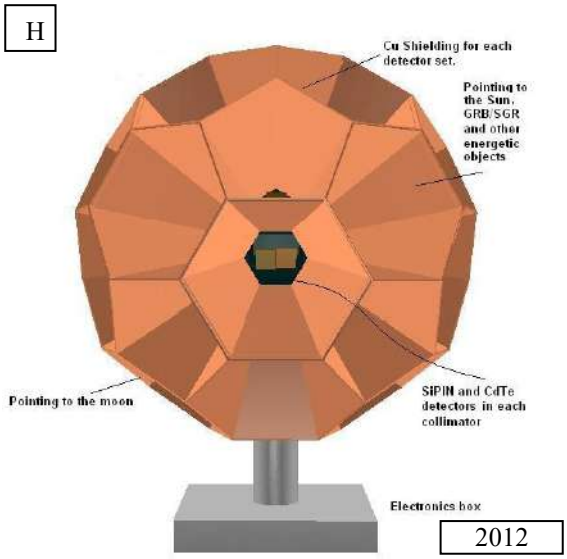
100 feet long plastic balloons are used to take payloads of about 5kg weight. Sometimes, ICSP launches two rubber balloons simultaneously so that after the burst of one of them, the payload may continue to gather data for a long time cruising at a fixed altitude. In bottom-right, we show the pictures of the shadow of the moon at two different times as taken from the payload about 20 km above the ground.

Activities around balloon launch, payload recovery, payload testing. In (H) the camera photographed Mercury in day time near the Sun. In (L-O) some payload recovery incidents are shown.



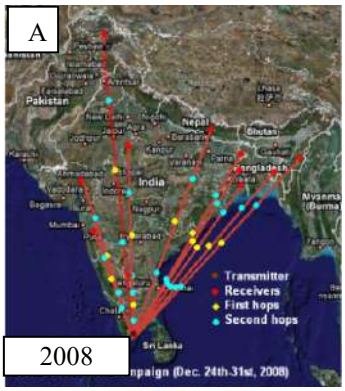


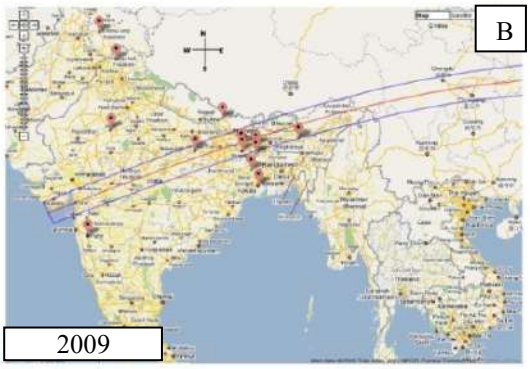


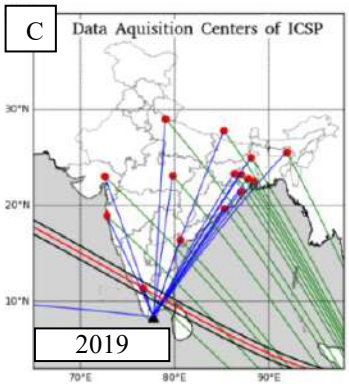


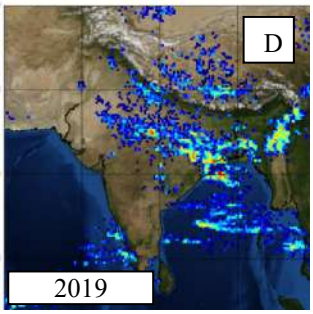
(A) Balloon/Payload recovery. (B-C) Students projects to make payloads and launching to Stratosphere. (D) Data telemetry from Payload. (E) Inside a complete Payload. (F) A Phoswich detector which returned from space many times. (G) Payload handed over to Team Indus for sending to Moon. (H) Payload design to carry out X-ray spectrometry from the Moon.
(I-K) Rocket making and thrust checking for Radiosonde activities.

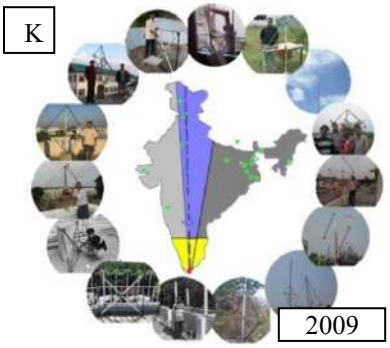
Ionospheric Sciences and Radio Astronomy

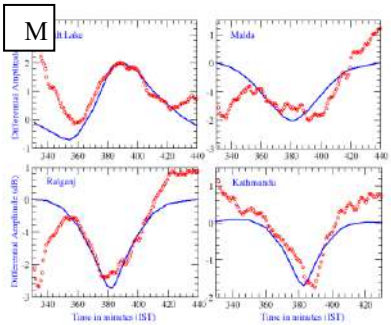


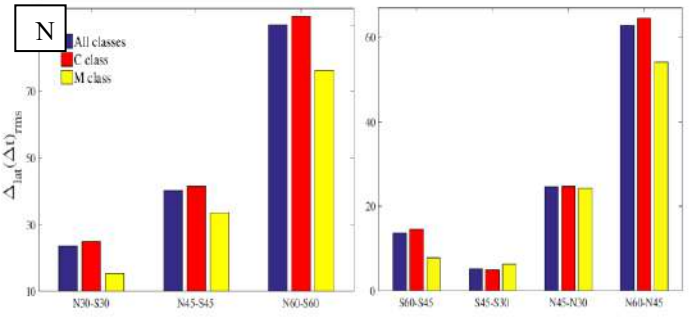


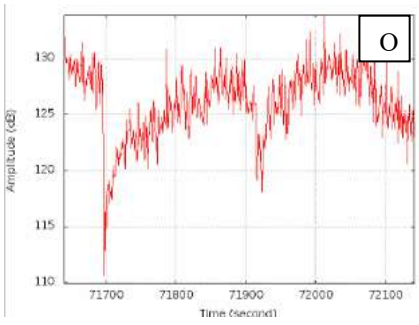


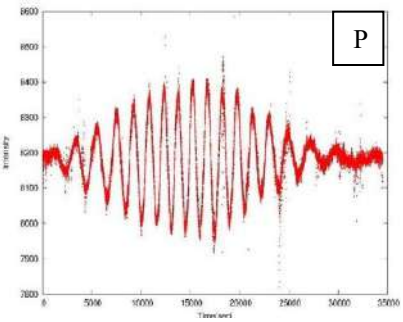








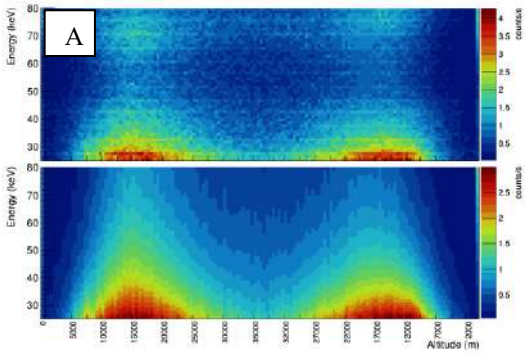


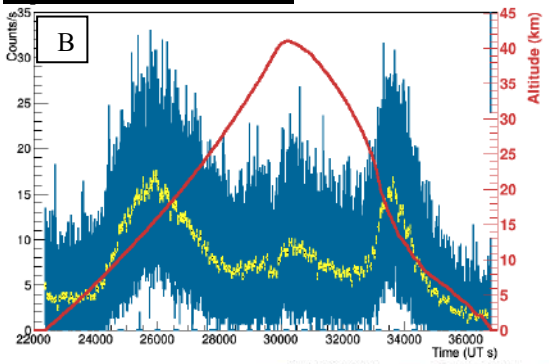


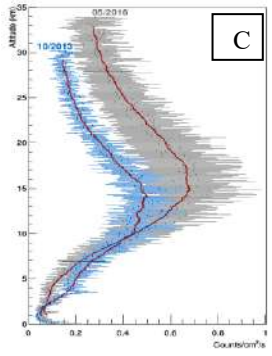
(O) ICSP data showing Lightning Induced Electron Precipitation in Earth's Magnetosphere.
(P) Radio data from the Sun's corona received at IERCOO by two element interferometer.

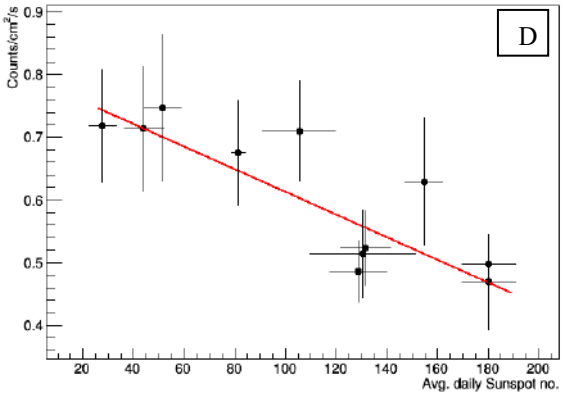
(A-C) ICSP carried out several campaigns to receive Radio signals from various VLF transmitters. (D-F): Analysis of data and discussion on the results. (G-H): Study of effects of sea water on the VLF signals. (I) German scientist Peter Schnoor discussing efficient antenna making at ICSP. (J) An ICSP student was sent to Antarctica to study effects of radio propagation in the ionosphere-earth wave-guide. (K) Stations where the antennas were placed during VLF campaign. (L) One such receiving station. (M) VLF amplitude before and during solar eclipse from various stations. (N) Solar flares detected by ICSP antennas.

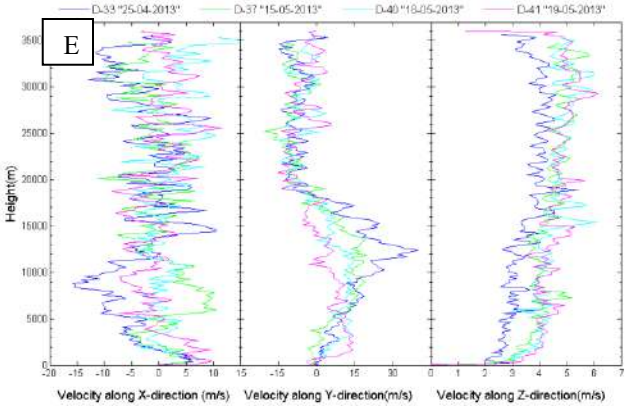
Space Radiation

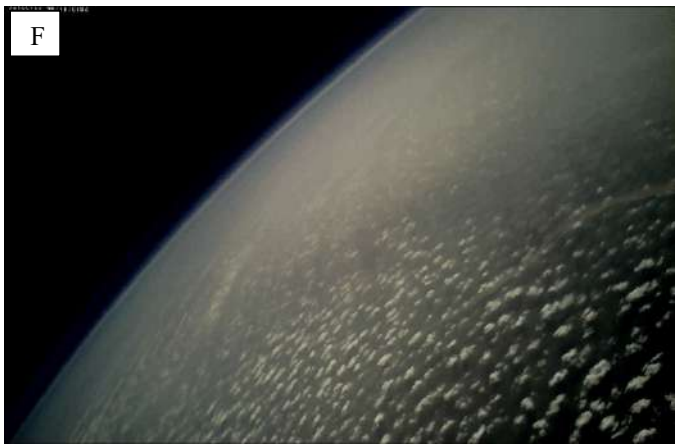


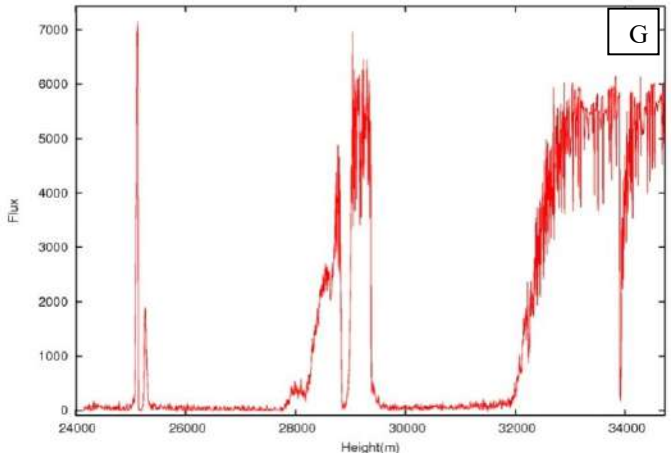


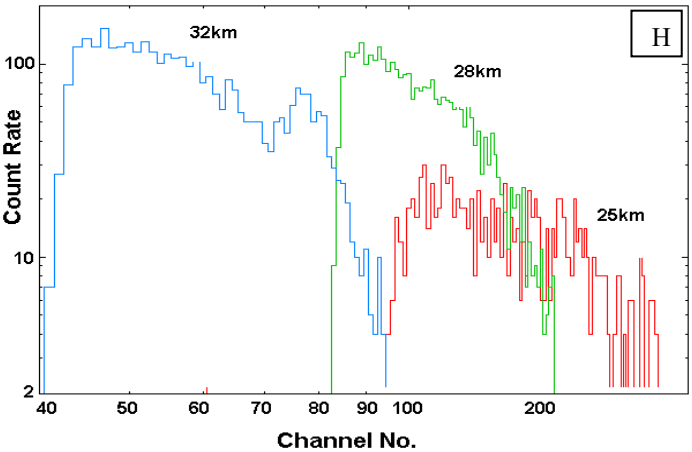


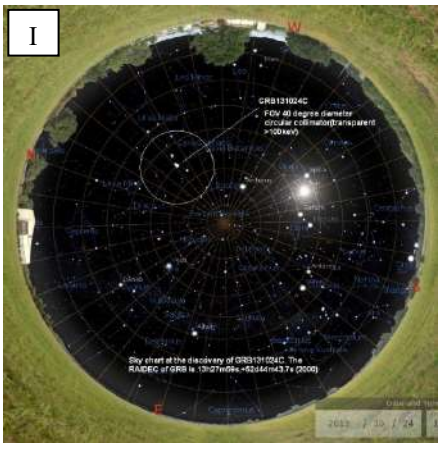








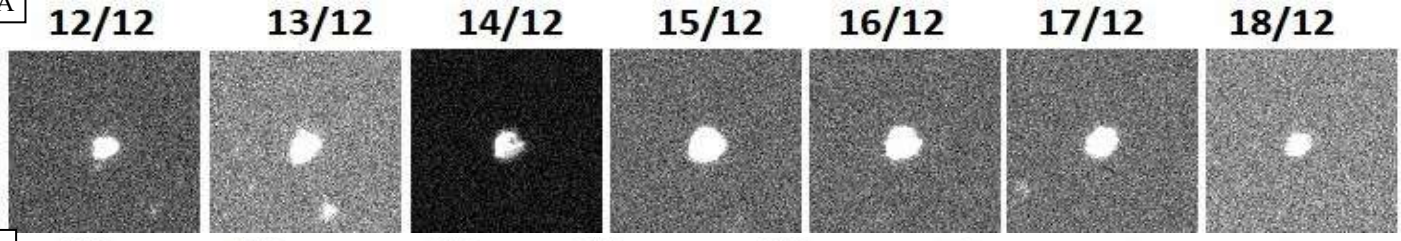




(A-B) Time/height variation of secondary Cosmic Ray spectra obtained by ICSP balloon borne X-ray detectors on the way up and on the way down. The bump in (B) is due to the radiation from a rotating magnetized neutron star. (C) Cosmic rays variation during solar maximum (blue) and minimum (gray). (D) Anti-correlation between solar activity and cosmic ray intensity plotted using our payload data over the years. (E) Variation of the components of the winds as measured by our payload. (F) Earth as seen by our video camera at 43km. (G) Three Solar Flares observed when the detector was a different heights. (H) The spectra of the solar flares. (I) A Gamma Ray Burst detected by our Scintillator detector.

Optical Astronomy

A



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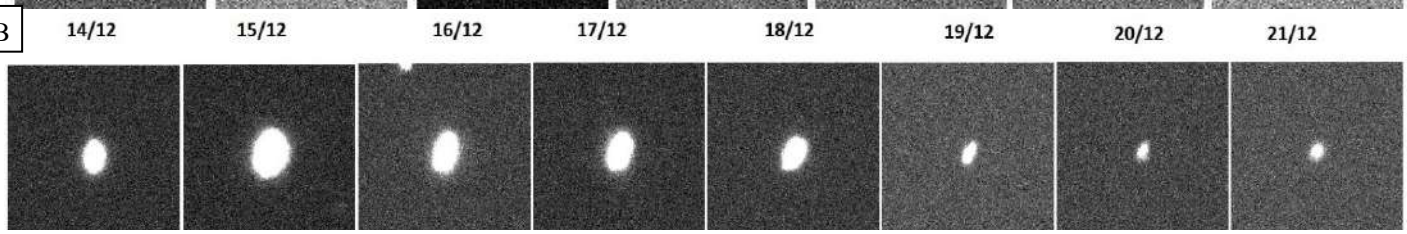

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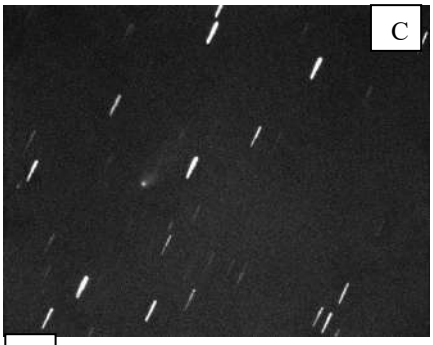

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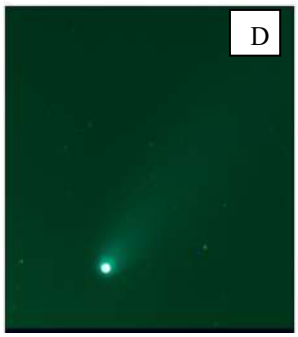

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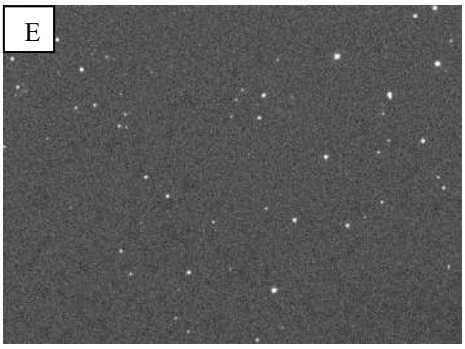

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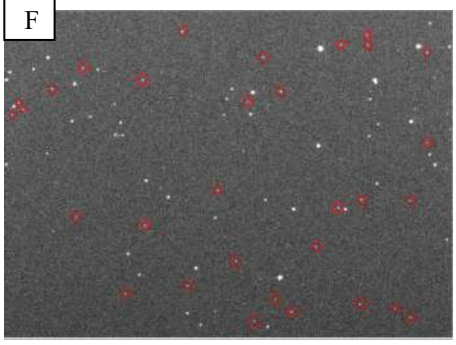
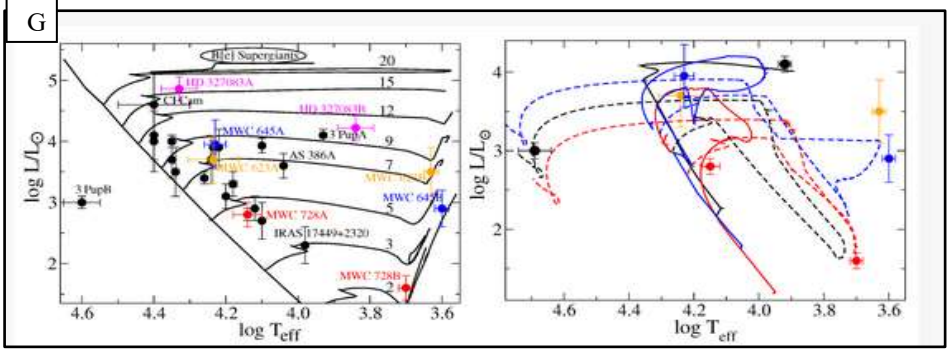


G



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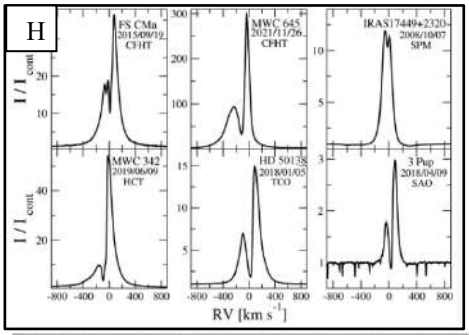

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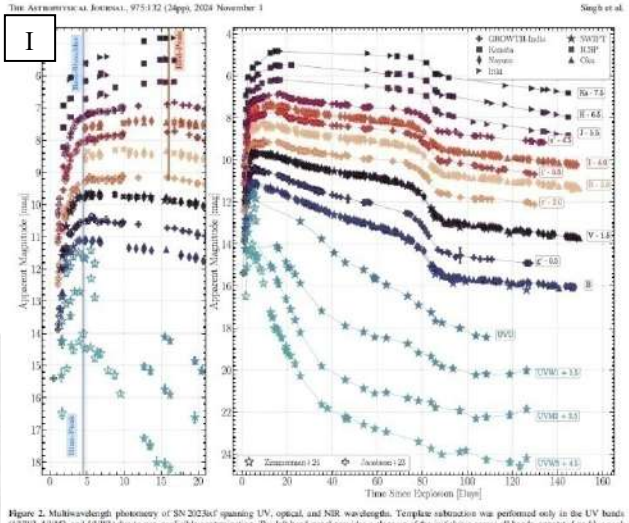
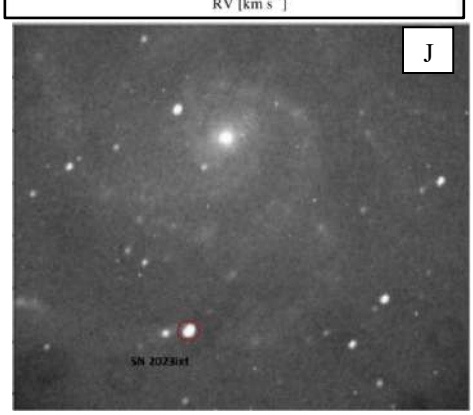


Figure 2. Multiwavelength photometry of SN 2023ixf spanning UV, optical, and NIR wavelengths. Template subtraction was performed only in the UV bands (UVW2, UVM2, and UVW1) due to non-negligible contamination. The left-hand panel provides a close-up of the initial rise across all bands, annotated as *blue peak* and *red shoulder*, and the subsequent *red peak*.
(The data used to create this figure are available in the online article.)

J



(J) Image of SN2023ixf taken by Vasishtha

ICSP has a research quality telescope with a Diameter of 24 inch. Various scientific studies have been done: (A-B) Daily variations of asteroid python; (C,D): Comets; (E-F): Effects of Aerosols and pollutants on the seeing of the sky. Compared here are the sky before and after Covid lockdown. (G) Evolution of various types of stars. (H) Study of spectral shifts due to Doppler effect and measurement of the velocity in the emission region. (I) SN2023ixf Light Curve obtained by many observatories including the 0.61m telescope of ICSP.

Participation in various National and International Conferences

ICSP scientists have been attending National and International conferences and facilities. In (A) A conference on Ionospheric science in Goa, (B) URSI conference at Istanbul; (C) COSPAR conference at Moscow State University (D) ASI Conference in Jaipur; (E) COSPAR conference at Mysore; (F) S.K. Chakrabarti 60th Birth Anniversary Conference at Science City; (G) COSPAR conference at California Institute of Technology; (H) Stanford-Sharjah University VLF conference at Sharjah

Paper Published by Faculties and Students of ICSP

(A) High energy Astrophysics/Astronomy around compact objects

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S. K. Chakrabarti, **A. Nandi, A. Chatterjee, A. Choudhury, U. Chatterjee**, Class Transitions and Two Component Accretion Flow in GRS 1915+105, Astron. Astrophys, **431**, 825, 2004

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S. Pal, Radio properties of Galactic compact objects, Journal of Astrophysics and Astronomy, 19-23, 2007

Z. Paragi, S. Chakrabarti, S. Pal, K. Borkowski, P. Cassaro, T. Foley et al., Radio and X-Ray Monitoring of SS433T, Revista Mexicana de Astronomia y Astrofisica, 2007

K. Chakrabarti, M. M. Majumdar and S. K. Chakrabarti, Accretion onto compact objects viewed as a flow in converging-diverging ducts, International Journal of Modern Physics D, **17(5)**, 799, 2008

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S. Mandal and S. K. Chakrabarti, Spectrum of Two-Component Flows around a Supermassive Blackhole: An application to M87 in Astrophysical Journal, 689, L17, 2008

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S. Mondal, P. Basu and S. K. Chakrabarti, Studies of accretion flows around rotating black holes - III. Shock oscillations and an estimation of the spin parameter from QPO frequencies, MNRAS, 396, 1038, 2009

K. Giri, S. K. Chakrabarti, M. M. Samanta, D. Ryu, Hydrodynamic Simulations of Oscillating Shock Waves in a Sub-Keplerian Accretion Flow Around Black Holes, MNRAS, 403, 516, 2009

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Other Scientific Activities of the Centre

(A-F) Training on electronics under the instruction of Mr. Prasanta Nandi. Lecture delivered at CSP/ICSP by (G) Prof. Ranjan Gupta, IUCAA; (H) Prof. Sonali Chakrabarti, MMC College; (I) Prof. B.B. Bhattacharyya Ex-President, Governing Body of ICSP; (J) Prof. M.R. Gupta, Jadavpur University; (K) Brainstorming on the Nature of Compact Objects with Profs. W.D. Arnett, R. P. Kerr and Y. Lou; (L) Informal discussion of students with Prof. Arnett and Prof. Kerr; (M) Lecture of Prof. S. Anantakrishnan, Director of GMRT



Some lectures at the Second conference on "Young Astrophysicists of Today's India" (2001). Lectures by (Left) Prof. S.K. Chakrabarti; (Middle) Prof. A.R. Rao (TIFR); (Right) Prof. A.R. Prasanna (Physical Research Laboratory)



Several summer Project students come to CSP/ICSP every year. Here are some of them working on chemistry in molecular clouds, making receiver for Radio dish antenna, getting Solar data using Radio dish antenna.

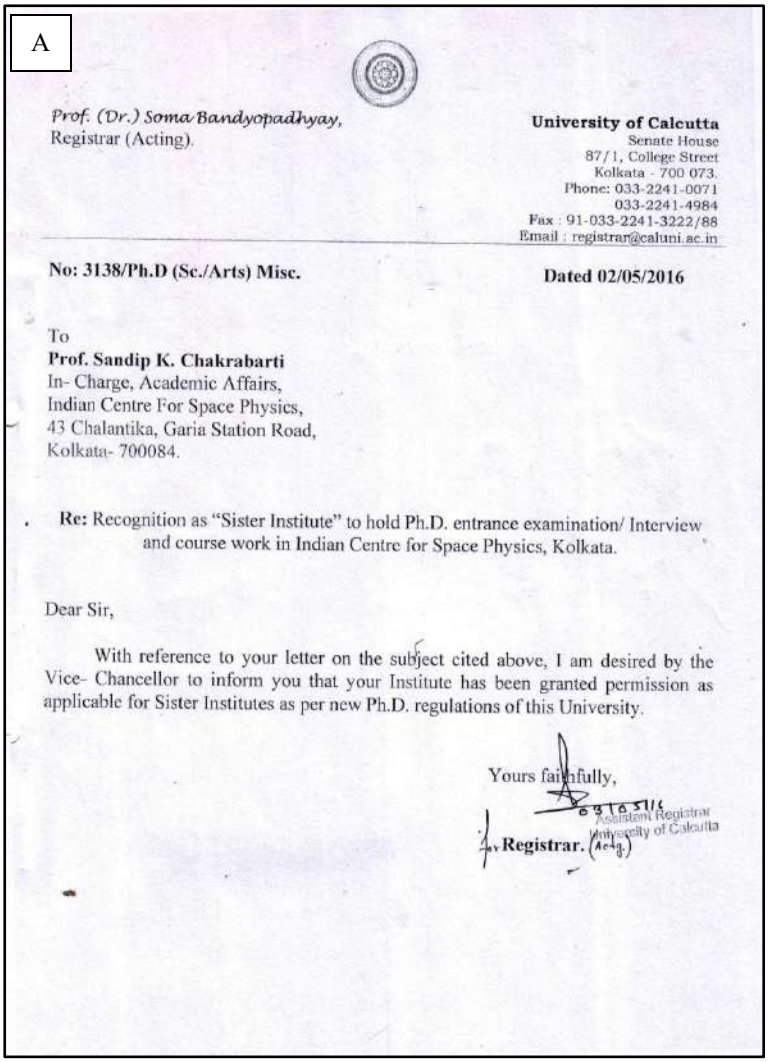
Prof. J.N. Chakravarty, Vice President of the Governing Body, inaugurating the 10 inch (0.25 meter) telescope in 2003 at CSP

Administrative Activities of the Centre

(A) CSP Governing Body (GB) members in front of the Garia office. (B-C) GB meetings at Garia ICSP Seminar Hall. (D) GB members at the Integrated campus. (E) GB meeting at IERCOO, Sitapur. (F) Handing over (Dr. P.S. Goel, Ex-Secretary of MoES to Dr. Sailesh Naik, Secretary of MoES) of the Recommendation of GoI constituted Goel Committee to take over ICSP under MoES (Ministry of Earth Sciences). (G) Meeting at the University of Rome on ICRANET with international members. Nobel Laureate Prof. R. Giacconi, Prof. R. Ruffini, Prof. S.K. Chakrabarti (from L to R) are among others. (H) MoU between ICSP and Adamas University on various fronts.

Various Agreements and MoUs Signed Between ICSP and Other Institutions

A



Prof. (Dr.) Soma Bandyopadhyay,
Registrar (Acting).

University of Calcutta
Senate House
87/1, College Street
Kolkata - 700 073.
Phone: 033-2241-0071
033-2241-4984
Fax : 91-033-2241-3222/88
Email : registrar@caluni.ac.in

No: 3138/Ph.D (Sc./Arts) Misc. **Dated 02/05/2016**

To
Prof. Sandip K. Chakrabarti
In- Charge, Academic Affairs,
Indian Centre For Space Physics,
43 Chalantika, Garia Station Road,
Kolkata- 700084.

Re: Recognition as "Sister Institute" to hold Ph.D. entrance examination/ Interview and course work in Indian Centre for Space Physics, Kolkata.

Dear Sir,

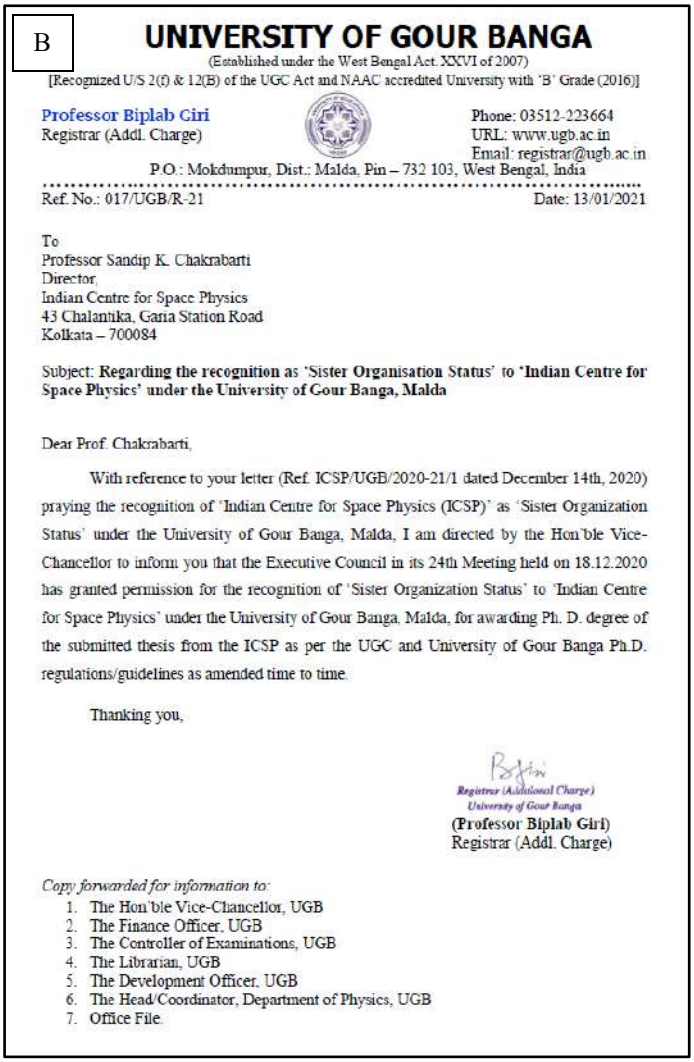
With reference to your letter on the subject cited above, I am desired by the Vice- Chancellor to inform you that your Institute has been granted permission as applicable for Sister Institutes as per new Ph.D. regulations of this University.

Yours faithfully,

Assistant Registrar
University of Calcutta

for **Registrar.** (Acting)

B



UNIVERSITY OF GOUR BANGA
(Established under the West Bengal Act. XXVI of 2007)
[Recognized U/S 2(f) & 12(B) of the UGC Act and NAAC accredited University with 'B' Grade (2016)]

Professor Biplab Giri
Registrar (Addl. Charge)

Phone: 03512-223664
URL: www.ugb.ac.in
Email: registrar@ugb.ac.in

P.O.: Mokdumpur, Dist.: Malda, Pin – 732 103, West Bengal, India

Ref. No.: 017/UGB/R-21 Date: 13/01/2021

To
Professor Sandip K. Chakrabarti
Director
Indian Centre for Space Physics
43 Chalantika, Garia Station Road
Kolkata – 700084

Subject: **Regarding the recognition as 'Sister Organisation Status' to 'Indian Centre for Space Physics' under the University of Gour Banga, Malda**

Dear Prof. Chakrabarti,

With reference to your letter (Ref. ICSP/UGB/2020-21/1 dated December 14th, 2020) praying the recognition of 'Indian Centre for Space Physics (ICSP)' as 'Sister Organization Status' under the University of Gour Banga, Malda, I am directed by the Hon'ble Vice-Chancellor to inform you that the Executive Council in its 24th Meeting held on 18.12.2020 has granted permission for the recognition of 'Sister Organization Status' to 'Indian Centre for Space Physics' under the University of Gour Banga, Malda, for awarding Ph. D. degree of the submitted thesis from the ICSP as per the UGC and University of Gour Banga Ph.D. regulations/guidelines as amended time to time.

Thanking you,

Registrar (Additional Charge)
University of Gour Banga
(Professor Biplab Giri)
Registrar (Addl. Charge)

Copy forwarded for information to:

1. The Hon'ble Vice-Chancellor, UGB
2. The Finance Officer, UGB
3. The Controller of Examinations, UGB
4. The Librarian, UGB
5. The Development Officer, UGB
6. The Head/Coordinator, Department of Physics, UGB
7. Office File.

University of Calcutta gave affiliation to Indian Centre for Space Physics (ICSP) in 2004. Subsequently, it has declared ICSP as a Sister Organization for PhD program. In 2021, University of Gour Banga also gave Sister Organization Status to ICSP.

C

CENTRE'S LOGO

ANCHOR UNIVERSITY LAGOS

Character • Competence • Courage

MEMORANDUM OF UNDERSTANDING

BETWEEN

ANCHOR UNIVERSITY LAGOS

And

INDIAN CENTRE FOR SPACE PHYSICS, KOLKATA, INDIA.

Anchor University Lagos (AUL) and **Indian Centre for Space Physics (ICSP)** shall jointly be referred to as "The Parties"

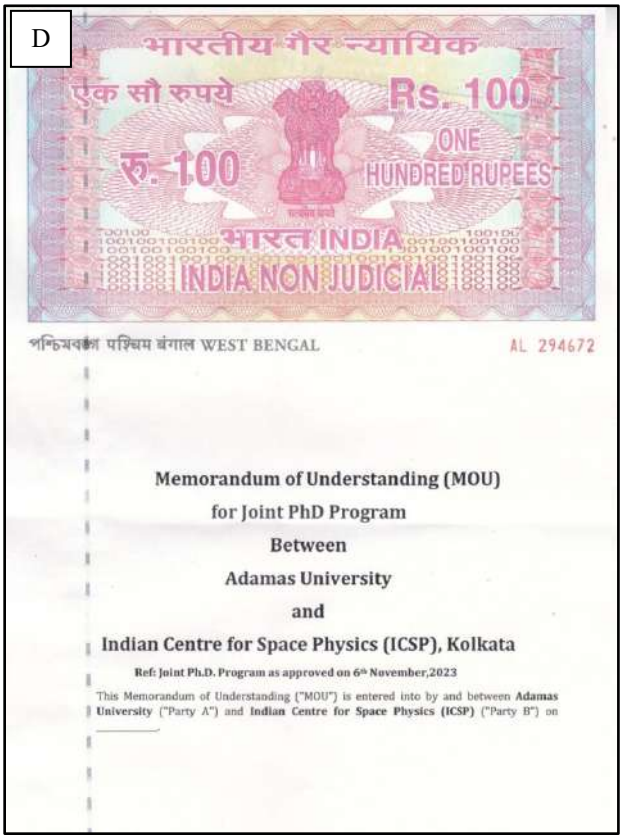
WHEREAS:

1. **AUL** is a young, faith - based private tertiary institution established under the laws of the Federal Republic of Nigeria for the purposes of teaching, conducting research, community service and awarding degrees and diplomas in various disciplines.
2. **ICSP** is a Research Centre for Space Physics in India for the purposes of, conducting research, training researchers and gathering of data through receivers
3. The Faculty of Natural and Applied Sciences of **Anchor University Lagos** and the **Indian Centre for Space Physics (ICSP)** intent to collaborate in matters of teaching, Research & Development and general matters of development within the Higher education and space research sector.
4. The parties shall conduct programs and activities in basic and applied research, education and training, technology and information transfer, which shall enhance each party's technological advancement and research.

Using their best efforts, they shall further cooperate in the following areas based on their respective objectives, which will include but not limited to:

(i) Academic, research and Administrative staff exchange
(ii) Student exchange
(iii) Transfer of scientific/engineering equipment for the purpose of teaching, education and research

D



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Memorandum of Understanding (MOU)

for Joint PhD Program

Between

Adamas University

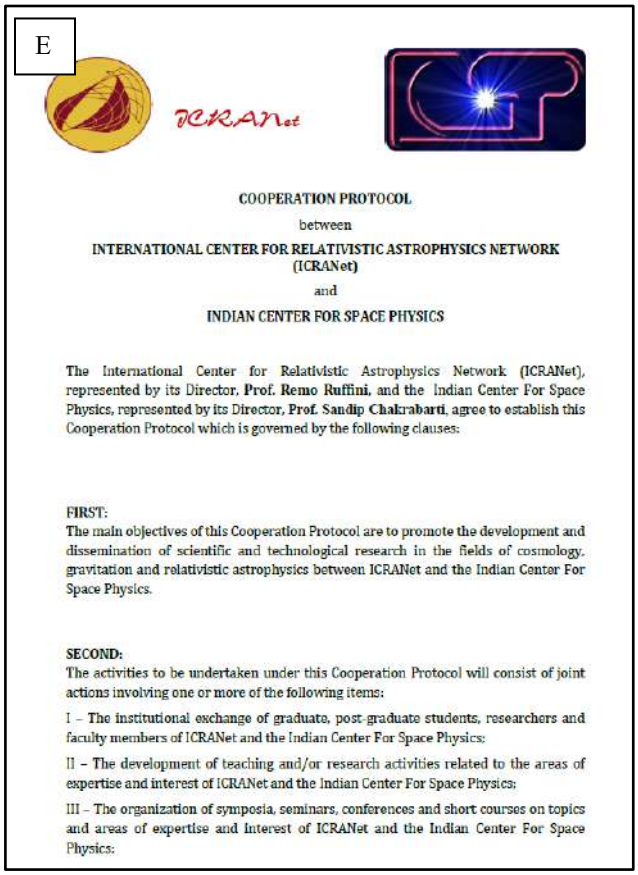
and

Indian Centre for Space Physics (ICSP), Kolkata

Ref: Joint Ph.D. Program as approved on 6th November,2023

This Memorandum of Understanding ("MOU") is entered into by and between **Adamas University** ("Party A") and **Indian Centre for Space Physics (ICSP)** ("Party B") on

E



ICRANet

COOPERATION PROTOCOL

between

INTERNATIONAL CENTER FOR RELATIVISTIC ASTROPHYSICS NETWORK (ICRANet)

and

INDIAN CENTER FOR SPACE PHYSICS

The International Center for Relativistic Astrophysics Network (ICRANet), represented by its Director, **Prof. Remo Ruffini**, and the Indian Center For Space Physics, represented by its Director, **Prof. Sandip Chakrabarti**, agree to establish this Cooperation Protocol which is governed by the following clauses:

FIRST:
The main objectives of this Cooperation Protocol are to promote the development and dissemination of scientific and technological research in the fields of cosmology, gravitation and relativistic astrophysics between ICRANet and the Indian Center For Space Physics.

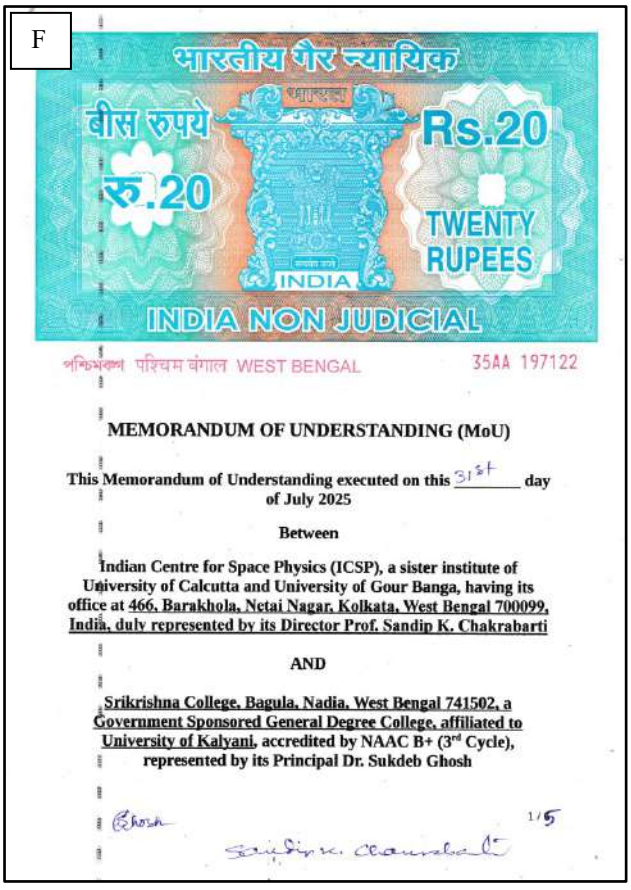
SECOND:
The activities to be undertaken under this Cooperation Protocol will consist of joint actions involving one or more of the following items:

I – The institutional exchange of graduate, post-graduate students, researchers and faculty members of ICRANet and the Indian Center For Space Physics;

II – The development of teaching and/or research activities related to the areas of expertise and interest of ICRANet and the Indian Center For Space Physics;

III – The organization of symposia, seminars, conferences and short courses on topics and areas of expertise and interest of ICRANet and the Indian Center For Space Physics;

F



भारतीय गैर न्यायिक

बीस रुपये Rs.20

रु.20 TWENTY RUPEES

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पश्चिमबंग पश्चिम बंगाल WEST BENGAL 35AA 197122

MEMORANDUM OF UNDERSTANDING (MoU)

This Memorandum of Understanding executed on this 31st day of July 2025

Between

Indian Centre for Space Physics (ICSP), a sister institute of University of Calcutta and University of Gour Banga, having its office at 466, Barakhola, Netai Nagar, Kolkata, West Bengal 700099, India, duly represented by its Director Prof. Sandip K. Chakrabarti

AND

Srikrishna College, Bagula, Nadia, West Bengal 741502, a Government Sponsored General Degree College, affiliated to University of Kalyani, accredited by NAAC B+ (3rd Cycle), represented by its Principal Dr. Sukdeb Ghosh

Ghosh 1/5

Sandip K. Chakrabarti

(C) MoU between ICSP and Anchor University on collaboration on Ionospheric science; (D) Joint PhD program between the ICSP and the Adamas University (E) Collaboration Agreement between ICSP and the Network of International Centre for Relativistic Astrophysics (ICRANET), Pescara (Italy) on research and mutual visits. (F) MoU between ICSP and Srikrishna College

F

CONSORTIUM AGREEMENT

ARTICLE 10 -SIGNATURES AND STAMPS

For the University of Nice Sophia-Antipolis
Date, Stamp and Signature of legal representative:
Le Président de l'Université de Nice-Sophia Antipolis
Albert MAROTANI

For the University of Roma "Sapienza"
Date, Stamp and Signature of legal representative:

For the International Center for Relativistic Astrophysics
Date, Stamp and Signature of legal representative:

For the University of Savoie
Date, Stamp and Signature of legal representative:
Pour le Président et par délégation,
le Vice-Président du Conseil Scientifique
Luc FRAPPAT

For the University of Ferrara
Date, Stamp and Signature of legal representative:

For Stockholm University
Date, Stamp and Signature of legal representative:
Pia Björn Fürstenbach
Director
Research Liaison Office

For the Freie Universität Berlin
Date, Stamp and Signature of legal representative:

For the Max-Planck-Gesellschaft zur Foerderung der Wissenschaften e.V.,
represented by the Max-Planck-Institut fuer Gravitationsphysik
Date, Stamp and Signature of legal representative:
Hermann Nicolai
MAX-PLANCK-INSTITUT FÜR GRAVITATIONSPHYSIK ALBERT-EINSTEIN-INSTITUT
Am Mühlenberg 1
14476 Potsdam/Golm

For the Observatoire de la Cote d'Azur
Date, Stamp and Signature of legal representative:
Observatoire de la Côte d'Azur
Le Directeur,
Farrokh VAKILI

For the Tartu Observatory
Date, Stamp and Signature of legal representative:

For the Indian Center for Space Physics
Date, Stamp and Signature of legal representative:

For the Shanghai Astronomical Observatory
Date, Stamp and Signature of legal representative:

For the Brazilian Centre for Theoretical Physics
Date, Stamp and Signature of legal representative:

(F) Agreement among various member Institutes of the ICRANET Consortium.

G

The Abdus Salam
International Centre
for Theoretical Physics

Office of External Activities
Telephone +39-040-2240322
e-mail: calligar@ictp.it

Our re: Prj-32 27 July 2015

Dear Professor Chakrabarti,

On behalf of the International Centre for Theoretical Physics, I am pleased to inform you that the Office of External Activities will grant **Euro 5,400** as 2015 contribution to support a Nepalese Junior Research Fellow at the Indian Centre for Space Physics, Kolkata, India.

The Abdus Salam
International Centre
for Theoretical Physics

Office of External Activities
Telephone +39-040-2240322
e-mail: calligar@ictp.it

Our re: Prj-32 30 June 2016

Dear Professor Chakrabarti,

On behalf of the International Centre for Theoretical Physics, I am pleased to inform you that the Office of External Activities will grant **Euro 2,900** as 2016 contribution to support a Nepalese PhD Fellow at the Indian Centre for Space Physics, Kolkata, India. The assignment is made for the last semester of the year.

H

The Abdus Salam
International Centre for Theoretical Physics

Operations & Travel Unit
tel.: 39 040 2240525
fax: 39 040 2240505
e-mail: festa@ictp.trieste.it

Trieste, 1st December 2008.

Our Ref.: **PRJ-32**

SUBJECT: **2009 ICTP contribution to support a non-Indian PhD student at the Indian Centre for Space Physics.**

Dear Prof. Chakrabarti,

With reference to the above, I am pleased to inform you that we have

The Abdus Salam
International Centre for Theoretical Physics

Office of External Activities
Telephone +39-040-2240322
Telefax +39-040-2240443
e-mail: calligar@ictp.it

Our re: Prj-32 3 March 2010

Dear Professor Chakrabarti,

On behalf of the International Centre for Theoretical Physics, I am pleased to inform you that the Office of External Activities will grant **Euro 3,300** as 2010 contribution to support an ICTP Junior Research Fellow doing his PhD at the Indian Centre for Space Physics, Kolkata, India.

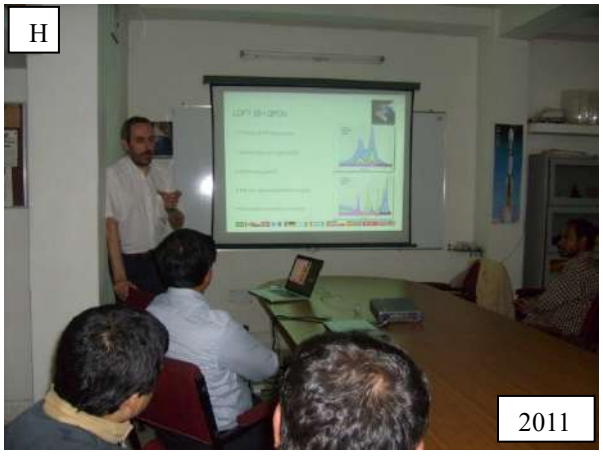
(G-H): ICSP supervised two Nepalese students towards PhD degree. This Project was funded by International Centre for Theoretical Physics (ICTP), later Abdus Salam ICTP, through its Third World Academy of Science (TWAS) programme.

Other Activities at the Centre

(A) Flag hoisting at ICSP Garia building by the Vice President of the Governing Body, Prof. J.N. Chakravorty.(B) Flag hoisting at ICSP by the Director, Prof. Sandip K. Chakrabarti (C) Lunch after a conference at CSP in 2002, sitting right to left : Prof. B. Basu (CU), Prof. M.R. Gupta (JU), Prof. J.N. Chakravorty, Vice President of the Governing Body(GB), Prof. S.P. Sengupta (IACS), President of the GB and Mr. Gurusaran Dasgupta, member of the GB (D) Lining up for green coconut water by the members of the Stratospheric Balloon lunch team at Bolpur Office. (E) Field trips by the members of ICSP to Panchalingeswar for observation of Leonid Meteor Shower. (F) Relaxing post-conference trip to Sundarban delta by ICSP members.

Eminent Visitors at the Centre

(A) Visit of Prof. S.N. Ghosh (in white cap) the eminent researcher on Atmospheric Science; (B) Visit of Prof. A.K. Mukhopadhyay, the DDG of Indian Meteorological Department (in blue shirt); (C) Visit of Dr. S. Ananthakrishnan of GMRT and Dr. K.K. Chakrabarti of IMD and Positional Astronomy Centre (second and fourth from the left in the front row); (D) Visit of B. Bhawal, Caltech (sitting at the center); (E) Prof. R. Sunyaev (MPI Germany; IKI Russia) (in blazer) ; L. Titarchuk (NASA/GSFC, left) and Dr. U. Desai (NASA/GSFC, right) at the ICSP laboratory; (F) Visit of Dr. U.R. Rao (Ex-Chairman of ISRO) after Chairing the Governing Body meeting of ICSP as its president.



Visit of (A)(center) Prof. Shankar Sen (MLA, Power Minister and Vice Chancellor of Jadavpur University) and the GB president Prof. C.K. Majumdar (in black shirt) at CSP; (B) Dr. Supriya Chakrabarti (center), Universiy of Massachusetts (USA); (C) ISRO team to see the progress of the RT-2 payload testing at CSP (D) Dr. K. Lynn from New Zealand and Peter Schnoor from Germany (center) (E) Dr. Y. Gupta (GMRT, center back row); (F) Prof. Govind Swarup, Director, Giant Meter Radio telescope (second from left); (G) Prof. S.K. Ghosh, Tata Institute of Fundamental Research (center); (H) Dr. Tomaso Belloni, University of Milan, Italy.

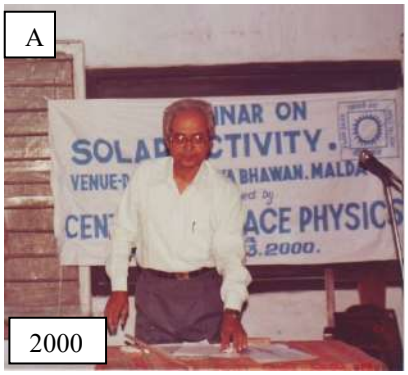
Visits of (A) Prof. K. Thone (Caltech); (B) Dr. K. K. Chakrabarti, Positional Astronomy Centre (second from the right); (C) Profs. W.D. Arnett (Univ. of Arizona, USA) and R.P. Kerr (Christ Church College, New Zealand); (D) Dr. Binod Kumar from Wadia Institute of Himalayan Geology (in green shirt); (E) Prof. Paul J. Wiita (Princeton) (F) Prof. Jayant Murthy (IIA, Bengaluru); (G) Dr. Crish Salter (Arecibo Telescope; Puerto Rico) (H) Prof. B.S. Achariya and Prof. S.C. Tonwar from the High Energy Physics Department, TIFR(left).

(A) Group photo after the lecture of the president of GB Prof. B.B. Bhattacharyya (center); (B-C) Eminent NASA/JPL scientist Dr. Bruce Tsurutani's visit to IERCOO, Sitapur and ICSP; (D) Visit of Ex-ISRO Chairman Dr. A.S. Kiran Kumar at ICSP; (E-F) Honorable American Consulate General Ms. Melinda Pavek visits ICSP and its museum; (G-H) Honourable Consular Chief Mr. Karl Mercer visited ICSP along with a team of 18 consulate members in a leadership training program; (I) Dr. Gautam Chattopadhyay of NASA/JPL opens the Museum for public viewing on December 3rd, 2023 after it was inaugurated by Wg Cdr Rakesh Sharma on October 27th, 2023.

Tenth Anniversary Celebration by ICSP (1999-2009)

(A-I): Snapshots of the Program to recognize all the ICSP working members at the Tenth Anniversary of ICSP in 2009 at Yuba Kendra Auditorium, Moulali.

Some of the seminars, conferences, webinars and workshops organized or Sponsored by ICSP



(A) Dr. Surya K. Burman giving talk in a conference on Solar Activity at Malda branch; (B) 2nd National conference on Young Astrophysicists of Today's India (YATI); (C) Prof. M.K. Das Gupta, eminent radio Astronomer and a Member of GB, President Prof. S. Sengupta and Vice President Prof. J.N. Chakravorty gave lectures at YATI; (D) Three Generations of Space Physics in Kolkata Conference were highlighted by attendance of Prof. S.N. Ghosh, Prof. S.K. Midya (his PhD student) and Dr. P.K. Jana (SKM's PhD student), Prof. B. Basu, Prof. M.R. Gupta and others; (E) Conference on Radio Propagation in Ionosphere (F) Lecture to college students at IERCOO (G) Conference on Astrobiology and Astrochemistry at IERCOO; (H-I) Conference on Space Science held at SKB University, Purulia.

(A) CORASS conference in progress at SKBU; (B) Conference to honor S.K. Chakrabarti at his 60th Birthday at Science City. (C) Release of SKC Festschrift by Prof. G. Bisnovatyi-Kogan (IKI, Moscow); (D) Prof. B. Mukhopadhyay (IISC), Editor of the Festschrift, talks at the occasion; (E) Participants in the workshop on X-ray Data analysis by TCAF model at ASI meeting in Jaipur; (F) Gathering in the Conference at Science City, partly sponsored by ICSP; (G) Prof. D. Balsara of University of Notre Dame giving talk at Seminar on Numerical Astrophysics of stars and Blackholes; (H) Mr. Rakesh Sharma speaks about his experience in space while the Education Minister Mr. B. Basu looks on; (I) Dr. A. Nandi (ISRO) talks about ISRO's Space programme; (J) Dr. J. Grunsfeld, a classmate of our founder, gave online speech on his experience in space shuttle; (H-J) Pertain to inauguration of the museum of ICSP

(A-H) Various activities at JNC Auditorium for three days after the inauguration of the museum by the Indian Astronaut, Wg Cdr Rakesh Sharma Ashok Chakra, in October, 2023.

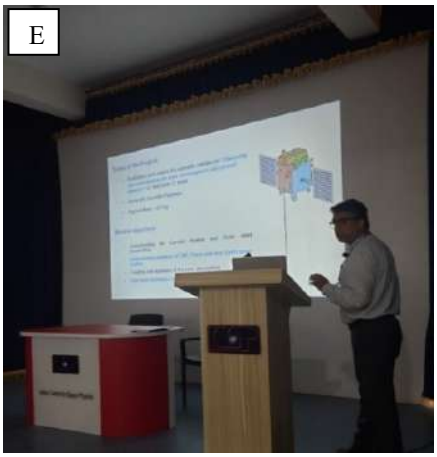
Group photographs of Wg Cdr Rakesh Sharma: (A) with visiting guests; (B) with ICSP members.

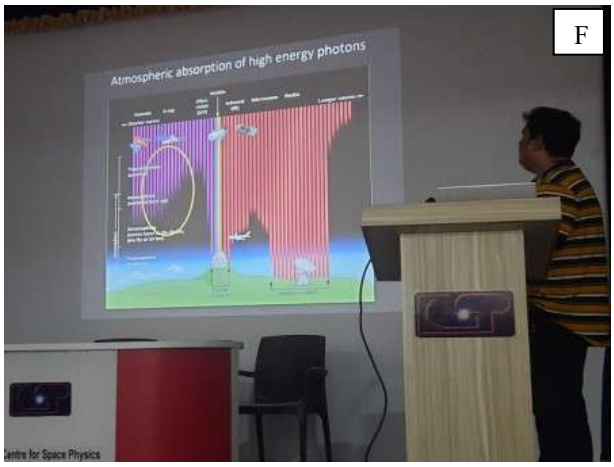
(C): Wg Cdr Rakesh Sharma points to his signed photo of 1984 at the Museum of Astronomy and Space Museum, while Air Chief Marshal Arup Raha PVSM AVSM VM (retd) looks on approvingly at the Wright Brothers first airplane model. (D):A section of the Audience around the visit of the Astronaut Wg Cdr Rakesh Sharma, Ashok Chakra.

Various Seminars, Conferences, Workshops organized as a part of Silver Jubilee Celebration of the Centre

(E) Cultural Function at the beginning of the Silver Jubilee year (1999-2024) in December 2023; (F) Visit of the Museum by National and International Delegates of the conference on "Celebration of the Birth Centenary of Prof. Amal Kumar Roychoudhuri and Prof. Mrinal Kumar Das Gupta (AKRMDG)"; (G) Talk of Prof. David Reitz (CalTech) at JNC auditorium on AKRMDG.

(A) Prof. Luciano Rezolla (Germany); (B) Prof. P.S. Majumdar (C) Mr. Anindya Das Gupta (D) Prof. S. Sarkar (Oxford), giving talks at AKRMDG as a part of the Silver Jubilee Celebration; (E-F) "Adda with the descendents of the Giants" was attended by the relatives of Prof. M.N. Saha, Prof. S.N. Bose, Prof. M. K. Das Gupta, and Prof. S. Chandrasekhar; (G-J) Inauguration of the Building was done by Prof. S. K. Chakrabarti in presence of the participants of First Biennial Conference on Astronomy, Astrophysics and Space Science "Exploring the Universe: from Near to Far (ExUNF)", held as a Silver Jubilee Event in February, 2024.





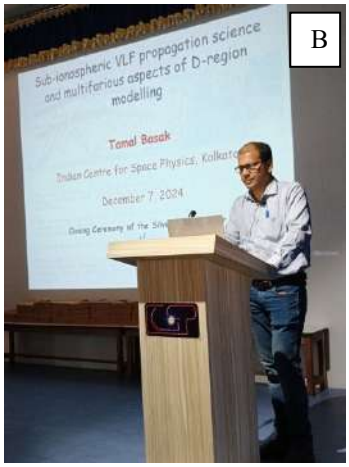
(A-G) Participants at the First Biennial Conference on Astronomy, Astrophysics and Space Science "ExUNF", held as a Silver Jubilee Event in February, 2024; (H) A Panel Discussion on Future of Astronomy and Astrophysics study in India at "ExUNF". Panelists are (Left to Right): Prof. Ranjan Gupta; Prof. S.C. Chakravarty; Prof. Patrick Dasgupta; Prof. Banibrata Mukhopadhyay; Prof. G. Anupama; Prof. Eswar Reddy and Prof. S.K. Chakrabarti.

(A): Felicitation of the students of Lakshmipat Singhania Academy holding the award received from NASA; (B): Dr. A. Deb talking on Machine Learning.

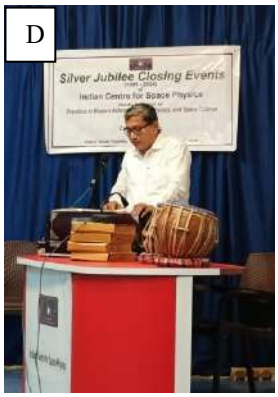
(C): Participants in the Workshop on Machine Learning as a part of Silver Jubilee Celebration; (D): Dr. S. Pal giving lecture on Application of Machine Learning. Dr. Kinsuk Giri (NTTTR), (2nd from right standing) took the initiative for this conference.

Silver Jubilee (1999 – 2024) Closing Ceremony of ICSP on 7th December, 2024

Lectures presented by (E): Prof. D. Nandi (IISER, Kolkata); (F): Prof. Archan S. Majumdar (SNBNCBS) ; (G): Prof. S. Bhattacharyya (TIFR) at the conference "Frontiers in Modern Astronomy, Astrophysics, and Space Science (FMAAS)".

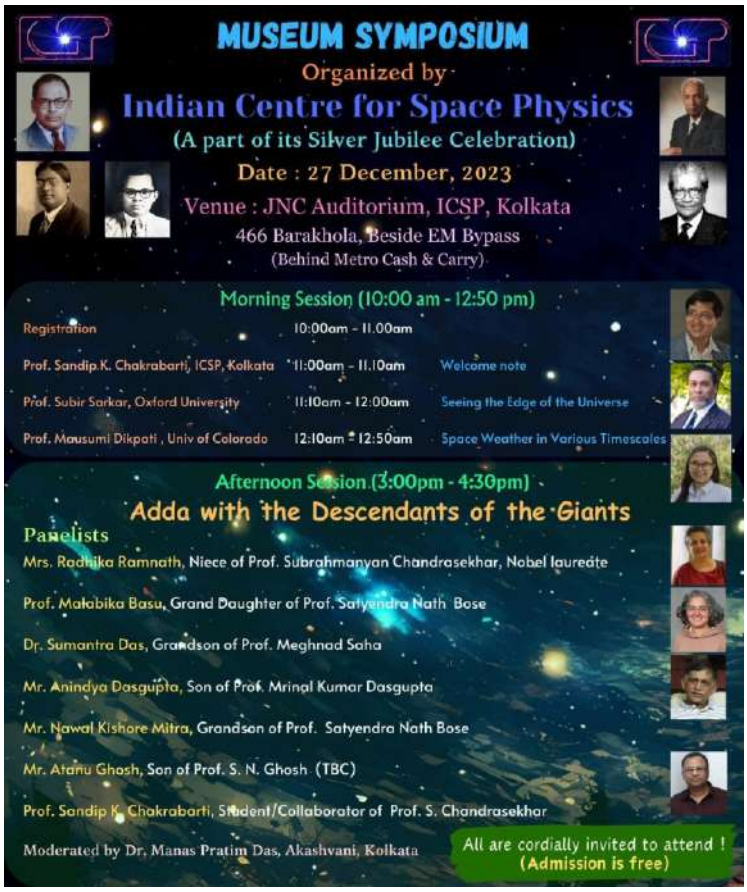


(A-E) Speakers presenting their contribution at FMAAS. (F) Group photograph taken on the occasion. (G) A section of the audience; (H) Cultural function on the closing day (I) Talk by Gp Captain Krishnendu K. Kundu, a Member of the Governing Body; (J) Presentation of awards to rank holders.



Various shots on the closing day ceremony. (A) Swami Suparnananda-ji Maharaj giving lecture as the chief guest, (B) A group photo. (C-E) Performances by Mr. Sujoy Maiti (Member of the Governing Body), Mr. Subrata Kr. Burai (Vice Chairman of the Executive Committee of IERCOO, Ms. S. Biswas and Mr. S. Saha respectively (F) Mementos waiting for distribution (G) Mementos and awards to various members of ICSP.

Posters of the Seminars, Conferences, Workshops organized as a part of Silver Jubilee Celebration of the Centre (8/12/2023 to 7/12/2024)




Indian Centre for Space Physics
Half Day Workshop on
MACHINE LEARNING AND ITS APPLICATIONS
(A part of Silver Jubilee Celebration of ICSP)
Date: 7th September 2024
Time: 10 AM – 1:30 PM
Venue: JNC Auditorium, ICSP, Kolkata
Program Schedule
10:00 AM – 10:10 AM
Welcome Address by Prof. Sandip K. Chakrabarti, Director, ICSP, Kolkata
10:10 AM – 11:10 AM
Introduction to Machine Learning by Dr. Kinsuk Giri, Assistant Professor, Dept. of CSE, NITTTR, Kolkata
11:10 AM – 11:45 AM
Applications of Machine Learning: A Case Study in Financial Crime Detection World by Dr. Arnab Deb, Manager, Financial Crime (Risk and Compliance), HSBC
11:45 AM – 12:00 PM
Tea Break
12:00 PM – 12:45 PM
Applications of Machine Learning in Space Physics by Dr. Sujay Pal, Assistant Professor, Physics, Srikrishna College, Nadia, West Bengal
12:45 PM – 01:15 PM
Applications of Computational Geometry in Machine Learning by Dr. Kinsuk Giri, Assistant Professor, Dept. of CSE, NITTTR, Kolkata
01:15 PM – 01:30 PM
Vote of Thanks by Dr. Tamal Basak, Assistant Professor, ICSP, Kolkata
(Snacks Packet will be served at 1:30 PM)
Organizing Committee
Prof. Sandip K. Chakrabarti, ICSP (Chair)
Dr. Kinsuk Giri, NITTTR, Kolkata
Dr. Sourav Palit, ICSP
Dr. Tamal Basak, ICSP
Dr. Devendra Bisht, ICSP
Dr. Sovan Saha, ICSP
Dr. Prantik Nandi, ICSP
Registration Fee INR 100
Registration Link (Deadline 6th Sep 2024, 5:00 PM)
Contact Details
Website: https://csp.res.in/
Phone: 9477365958, 9163409293
Email: icspconf24@gmail.com
UPI Link for Registration Fee
Special Attraction: Participants may visit the Museum of Astronomy and Space Science of ICSP from 2:00 PM at a 40% reduced rate


INDIAN CENTRE FOR SPACE PHYSICS
Workshop on
TWO COMPONENT ADVECTIVE FLOWS (TCAF): FITTING PROCEDURE AND RESULTS FOR STELLAR AND SUPERMASSIVE BLACK HOLES
(Circular No 2)
(A part of Silver Jubilee Celebration of ICSP)
Date: 25th September, 2024
Venue: JNC Auditorium, ICSP, Kolkata (Offline) & Google meet (Online)
Registration Deadline : 21st September, 2024
(A consent form will be sent after the registration deadline to download the codes, FITS files, and sample data. For further details, please visit https://csp.res.in)
Program Schedule
11:30 - 12:00 : Registration process for offline participants
12:00 - 12:45 : Introduction to TCAF Solution by Prof. Sandip K. Chakrabarti, Director, ICSP, India
12:45 - 13:10 : How my Code computes the spectrum by Prof. Sandip K. Chakrabarti, Director, ICSP, India
13:10 - 13:30 : Simulations of magnetised sub-Keplerian accretion onto black holes by Dr. Sudip K. Garain, Assistant Professor, IISER Kolkata, India
13:30 - 14:00 : Implementing TCAF Solution as Both a Local and Table Model in XSPEC by Dr. Santanu Mondal, Ramanujan Fellow, IIA, India
14:00 - 14:30 : Break
Hands on session
14:30 - 16:00 : X-ray Spectral fitting of BHXRBs by TCAF FITS file by Dr. Ayan Bhattacharjee, Post Doc, UNIST, South Korea
16:00 - 17:00 : X-ray Spectral fitting of BHXRBs by TCAF FITS file by Dr. Arghajit Jana, Post Doc, Instituto de Estudios Astrofisicos UDP, Chile
17:00 - 17:50 : X-ray Spectral fitting of AGNs by TCAF code by Dr. Prantik Nandi, Scientist C, ICSP, India
17:50 - 18:00 : Conclude the Session by Prof. Sandip K. Chakrabarti, Director, ICSP, India
Registration
CONTACT PERSON
Dr. Prantik Nandi, ICSP
*All time in IST
INDIAN CENTRE FOR SPACE PHYSICS


Indian Centre for Space Physics
Frontiers in Modern Astronomy, Astrophysics, and Space Science
A Closing Ceremony of the Silver Jubilee Program of ICSP
Venue: JNC Auditorium, ICSP, Kolkata
7th December, 2024
The event will celebrate the completion of ICSP's 25-year journey, highlighting its commitment to advancing knowledge and innovation in astronomy, astrophysics, and space science.
Program Schedule
10:00 am - 10:30 am
Registration & Tea
10:30 am - 10:40 am
10:40 am - 11:15 am
11:15 am - 11:50 am
11:50 am - 12:25 pm
12:25 pm - 1:00 pm
Lunch Break
1:00 pm - 2:00 pm
2:00 pm - 2:15 pm
2:15 pm - 2:30 pm
2:30 pm - 2:45 pm
2:45 pm - 3:00 pm
3:00 pm - 3:15 pm
3:15 pm - 3:30 pm
Tea Break
3:30 pm - 4:00 pm
4:30 pm onwards
Organizing Committee
Dr. D. Bisht (Convener)
Dr. T. Basak
Dr. S. Palit
Dr. S. Saha
Dr. P. Nandi
Further Information
Our Website:
Phone No:


Space Exploration with Students
One day seminar
Organized by
Indian Centre for Space Physics
Venue: JNC Auditorium, ICSP, Kolkata
January 3, 2025
Program Schedule
10:00 am - 10:30 am
Registration & Tea
10:30 am - 10:40 am
Welcome Address by Prof. Sandip K. Chakrabarti, Director, Indian Centre for Space Physics (ICSP), Kolkata
10:40 am - 10:55 am
Scope of Student Involvement in VLF Campaign for Ionospheric Studies, Dr. Tamal Basak, ICSP, Kolkata
10:55 am - 11:10 am
Astronomy and Weather Science with ICSP Balloon expeditions, Dr. Sourav Palit, ICSP, Kolkata
11.10 am - 11.30 am
ICSP's Effort towards Space Science Awareness of Students, Prof. Sandip K. Chakrabarti, ICSP, Kolkata
11:30 am - 12:30 pm
Ground-based Experiments and Space-flight Missions for Space Exploration with Students,
Prof. Supriya Chakrabarti, Lowell Center for Space Science and Technology, University of Massachusetts Lowell
12:30 pm - 12:45 pm
Student's Involvement in ICSP Small Balloon Instrumentation, Mr. Rupnath Sikdar, ICSP, Kolkata
12:45 pm - 1:00 pm
Capturing the Night Sky: Observing and Analyzing the Amazing Starlight, Dr. Devendra Bisht, ICSP, Kolkata
1:00 pm - 1:15 pm
Study of Space Weather using Airglow Measurements: Prospects for Students, Dr. Sovan Saha, ICSP, Kolkata
1:15 pm - 1:30 pm
Astronomical High Energy Data Analysis for Students, Dr. Prantik Nandi, ICSP, Kolkata
Lunch break (1:30 pm - 2:30pm)
2:30 pm - 3:30 pm
Panel Discussion
Registration Deadline
January 1, 2025
Organizing Committee
Dr. S. Palit (Convener)
Dr. T. Basak
Dr. D. Bisht
Dr. S. Saha
Dr. P. Nandi
Mr. R. Sikdar
Registration Fee including lunch packet: INR 100/-
Please Register Online at
Our Website: https://csp.res.in
Phone No: 9051639237
9477365958


Astrophysics and Space Science with Meteorological Balloons
An international conference organized by
Indian Centre for Space Physics, Kolkata, India
Date : 2 - 4 April, 2025
Venue : JNC Auditorium, ICSP
This conference will bring together experts from around the world who use meteorological balloons (less than 10,000 cubic meter) for research in astrophysics, space science, and meteorology. We will discuss the current state and future potential of scientific exploration using such balloon platforms.
Confirmed Speakers
Keisuke Maeda, Associate professor, Kyushu Institute of Technology in Fukuoka, Japan
Ganod Serod, Mongolian National College of Technology, Mongolia
Ashraf Mohamed Samir Farahat, Associate Professor, King Fahd University, Saudi Arabia
Philippe Laurent, Astrophysicist and Integral/IBIS Instrument Scientist, CEA/Saclay, France
Sandip K. Chakrabarti, Director, Indian Centre for Space Physics, Kolkata, India
Margarita Safonova, UV Astrophysicist, M.P. Birla Institute of Fundamental Research & IIA
Gerardo Capobianco, Solar Physics Researcher, INAF-Astrophysical Observatory of Torino
Somenath Dutta, Scientist G, Head, RMC Kolkata
Ganesh Kr. Das, Scientist E, Head MWO Kolkata
Tilak Katoch, Scientist, Tata Institute of Fundamental Research
Shamitaksha Talukdar, Project Scientist, IMD
Sourav Palit, Assistant Prof.-II, Indian Centre for Space Physics, Kolkata, India
Rupnath Sikdar, Research Scientist, Indian Centre for Space Physics, Kolkata, India
Debashish Bhowmick, Engineer II, Indian Centre for Space Physics, Kolkata, India
Registration fee
(Including meal and accommodation)
1) International Participants: $200.00
2) National Participants:
Faculty /Scientist : Rs. 2000.00
Students (UG/PG/PhD/PDF): Rs. 1000.00
Others: Rs. 1000.00
Participants requiring no local hospitality (food and accommodation) can register with Rs. 100 only.
Please register at
Organizing committee
Sourav Palit (Convener)
Rupnath Sikdar (Co-convenor)
Debashis Bhowmick
Tamal Basak
Devendra Bisht
Abstract submission deadline: 15th March 2025
Registration deadline: 26th March 2025
Submit abstract at
https://forms.gle/XNp9Vv5PwYwzRj2U6
For further information and inquiries on the registration process and fees, please contact
Indian Centre for Space Physics
Website - https://csp.res.in/
Email - icspconf24@gmail.com

Cultural and scientific events at Sitapur Campus, West Medinipur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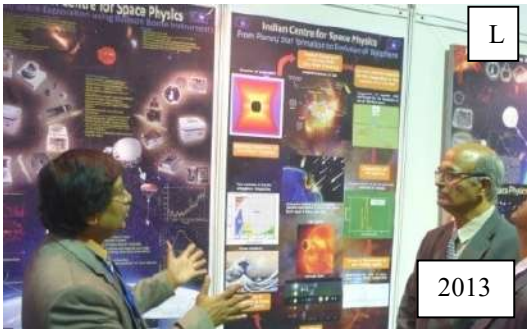
(A-C) A conference on Astronomy with small telescopes; (D) Conference at IERCOO on the occasion of the Governing Body meeting; (E) Visitors from MMC College to the Observatory; (F) NASA/JPL Scientist Dr. Bruce Tsurutani at the Observatory; (G) Dr. Victor U.J. Nwankwo from Anchor University, Lagos, visiting the Observatory; (H) Students learning the robotic telescope operation mechanism; (I) Popular talk by Prof. S.K. Chakrabarti to college students (J) Dr. Takashi Shimonish (Japan) Giving talk on Astrochemistry and Astrobiology conference (K) Prof. G.C. Anupama giving talk at the Optical Astronomy session of "ExUNF" which were held at IERCOO.(L) Group photo of the participants of "ExUNF" at IERCOO.

(A) A photograph of the group of participants at the Optical Astronomy session of "ExUNF" conference in February, 2024 (B) Flag hoisting by the Mr. Subrata Burai, Siksha Ratna, the Vice Chairman of the Executive body of IERCOO, Sitapur.

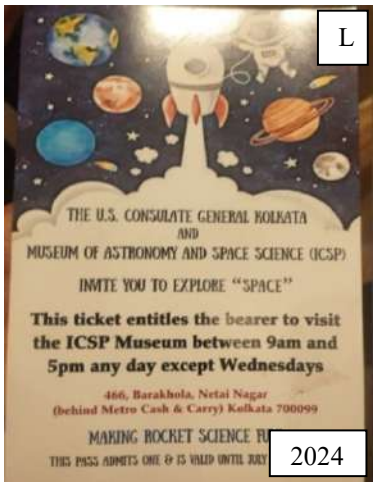
Participation in Science Fairs and Indian Science Congress



(C-D) CSP stall at the Science fair organized by the West Bengal State Science and Technology Congress at Ballyganj Science college campus; (E-G) ICSP stall at the West Bengal State Science and Technology Congress at Narendrapur R.K. Mission play ground; (H) ICSP Stall at the 100th Indian Science Congress; (I-K) Students crowd at the ICSP Stall at the 100th ISC Kolkata; (L-M) Eminent visitors such as Prof. Ram Sagar, Director of ARIES (Nainital) and Prof. S. Raha, Director, Bose Institute at the ICSP Stall; (N) A group photograph at the stall.

(A-C) ICSP Stall at ISC-2013 was adjudged to be the most Innovative stall and presented by an award.

(D) Participation of ICSP in Bengal Global Business Summit; (E) Bongio Bijnan Mancha organized Science fare; (F) National Space Science Symposium at the Science City.



ICSP was invited to create a stall on Space Science on the occasion of Indo-US collaboration in Space research on their National day. (G) Consulate General of USA, Kolkata, Ms. Melinda Pavek visiting ICSP pavilions on Space Museum at the Taj Hotel, New town in presence of ICSP staff members; (H-J): Honorable US Ambassador to India Mr. Eric Garcetti is visiting ICSP pavilion and meeting ICSP Staff members at the Taj Hotel. In (J) Mr. Garcetti is seen to inspect NISER Satellite model fabricated by ICSP. (K) Invited guests at the US program at Taj Hotel visiting ICSP exhibits. (L) Invitation cards to the Space museum distributed to the guests were sponsored by the US consulate, Kolkata.

Public outreach of the Centre

Districtwise Space Science Symposium

ICSP is a pioneer in the State of West Bengal to regularly organize Space Science Symposia (SSS) in every district of West Bengal. In each SSS event, there five to six lectures by the PhD students and faculties. Students from all over the district attend this whole day program, have lunch and received a certificate of participation. More than 50,000 students of West Bengal were benefitted by ICSP's effort to popularize Astronomy, Astrophysics and Space Science.

Some more photos of the Districtwise Space Science Symposia organized by ICSP

Some more photos of the Districtwise Space Science Symposia organized by ICSP

Telescope making workshop and campaign on Venus transit

With the help of Department of Science and Technology, Government of West Bengal and Vigyan Prasar, ICSP Organized Telescope making workshop where twenty schools from all over the State came. Each team had two students and a teacher. After the workshop, all the schools were given those 5 inch telescopes ensuring that every district has at least one telescope. Dr. Malay Banerjee, Secretary DST (WB) gave away the telescopes to schools (Lower-Center). Dr. U. Tirkey (Lower –Left), DST (Govt. of India) released an ICSP made CD on telescope making.

Telescope received by each district was used to observe the Venus transit and solar eclipse. That way thousands in each district benefitted from this program. Solar filter and solar radiation protection caps were also given to each school in order to distribute to students.

ICSP organized Interschool Quiz competition

ICSP organized a quiz competition on Space Science in multiple stages for 6 weeks. It first went through written tests in all the schools of a district and then the best school was chosen from quiz of top three schools. These top schools were collected in three zones and the topmost school in each zone was chosen for the final which took place in Kolkata. The topmost three schools received the awards from Ex-ISRO Chairman, Dr. U.R. Rao. At every stage, everyone received medals and/or certificates. Dr. Rao was also felicitated from ICSP.

Museum visit by various school and college students and others

A

B

C

D

E

F

G

H

The Museum of Astronomy and Space Science has become a popular destination for students and teachers alike. At the museum one can see the signatures of all the Astronauts, Nobel Laureates, handwritings of many eminent scientists, models of many Satellites, rocks from the Mars and the Moon, rocks from pre-solar system days, actual payloads which went to near space etc. If the number of students is high, ICSP provides an orientation class (A-B) and also guidance to museum exhibits (F-G).

Some photos of students and teachers visiting the museum.

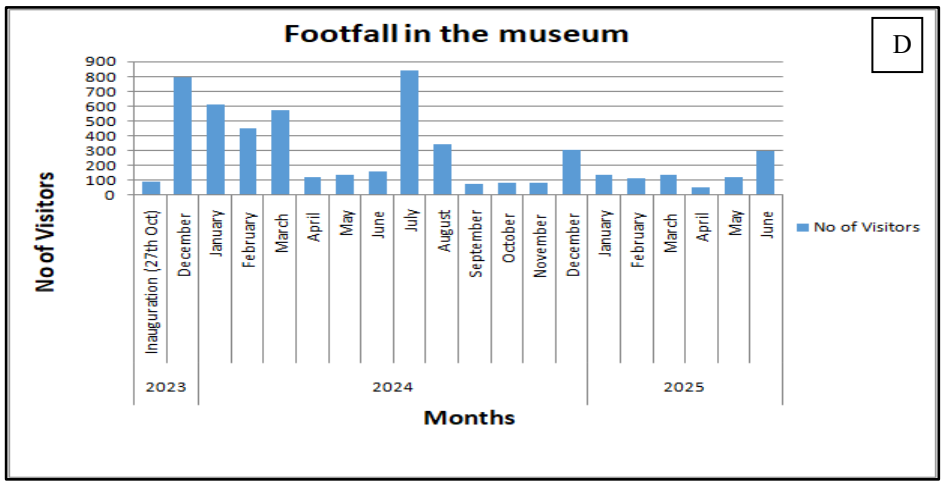
A

B

C

Different groups of people come, learn and enjoy at the Museum.

D



Visitor Footfall at the Museum (December 2023 to June 2025)

Observatory visit by various School and college students

Ionospheric and Earthquake Research Centre and Optical Observatory is a delightful place in the setting of a remote, picturesque village in West Medinipur (P. 26). The Sky is very clear and is ideal for researchers. However, many schools and colleges send their students/teachers to stay overnight and do the skywatching with 0.61m (Vashista, the largest telescope in Eastern India) and 0.25m (Arundhuti) telescopes. The visitors are given orientation and shown how a robotically controlled telescope works and how data is procured by scientists.

Diploma and Certificate courses at ICSP


A

B


C


D

ICSP not only supervises PhD students, it also allows people to take courses in various branches in Astronomy, Astrophysics and Space Science.

Summer Camp on Telescope Making and Sky Watching

A Summer Camp on Telescope Making and Sky Watching was jointly organized by the Indian Centre for Space Physics (ICSP) and the Paschim Banga Samagra Shiksha Mission, School Education Department, Government of West Bengal, at the IERCOO Campus. The Principal Secretary of Dept. of Higher Education is addressing the students of the camp (Top Right)

ICSP is always in News

HUMBLE BEGINNING

Nibedita Kar reports on the assembly of three generations of space physicists in the city

hindustantimes

METRO

ud over eclipse experience

you

YOUR CAMPUS BUDDY

CAMPUS BUZZ

Sky high

HT CITY

FINALLY SOME GOOD NEWS FOR HUMAIMA

BUSINESS

AIRASIA MAY FLY BY OCTOBER

SPORT

LEANDER, BOPANNA BOTH IN SEMI-FINALS

Flare scare for fliers as sun emits killer rays

SOLAR POWER

tantimes

THURSDAY, JANUARY 10,

City scientist maps black hole birth

SHORT HISTORY A black hole is a region in space that gulps down anything and everything, including ligh

Joydeep Thakur

joydeep.thakur@hindustantimes.com

KOLKATA: For the first time, scientists have detected the entire

and Astrophysics.

"Earlier, scientists across the world had recorded on several occasions such birth cries of black holes but none of the

formation. This can be said to be the 'birth cry' of the black hole. Chakrabarti said the black hole is located nearly two billion light years from the earth (one light

date since the day it was formed nearly 4.6 billion years ago. We are lucky that it didn't form somewhere close to our solar system, otherwise the entire

DID YOU KNOW?

How do they form: Black holes form

City researchers match Rs 20

Budget balloon for star trek

PRASUN CHAUDHURI

Giant missiles, rockets, tanks and.... a balloon!

Amidst several multicrore superstars of Indian technology at the mega science expo of the Indian Science Congress's 100th session, one could have easily missed the humble balloon had there been no crowd of curious students surrounding it.

"We explore the upper reaches of the atmosphere and space with sophisticated instruments borne by these balloons," said Debashis Bhowmick, one of the engineers who built Dignity, a series of balloons meant for space experiments at the Indian Centre for Space Physics (ICSP), a tiny Garia-based research institute.

As Bhowmick and his fellow researchers — Ankan Das, Arko Chatterjee, Arnab Bhattacharya among others — explained how the balloons measure cosmic rays and gamma

rays, study ozone deple

students from differen

spellbound.

No wonder Sandip C

S.N. Bose National Cent

doffed his hat to Bhown

the ICSP engineers and

on such a shoestring bu

They are launching ball

ed instruments at a fract

curred by NASA or ISRO

ments," said the mentor

who has been associated

ration at both NASA and

The fact about the ICS

ment is spelt out by the fig

produced by the Tata Insti

tal Research (TIFR) weigh

and an ICSP one weighs le

balloon costs Rs 2 crore, o

lakh!

CONTINUE

An ICSP balloon built on a shoestring budget to carry space exploration tools

এই সময়

'সস্তা'র বেলুনে মুঠোয় মহাকাশ

দিব্যেন্দু সরকার ■ আরামবাগ

মাত্র ৫০ থেকে ৬০ হাজার টাকা খরচ করে মহাকাশ পর্যবেক্ষণ মাত্র ৫-৬


'বশিষ্ঠ' টেলিস্কোপে চোখ মহাকাশবিজ্ঞানীদের
করোনায় হবে বিস্ফোরণ
তবে রোগজীবাণু নয়, ন
৮০ বছর পর
২,০০,০০,০০০ আগে নক্ষত্র বিস্ফো
ধরা দিল বশিষ্ঠর লে
SPACE ON A SHOESTRING
ONLY THIRD SUCH DISCOVERY IN GALAXY
Indians spot rare young supernova
বশিষ্ঠ-অরুন্ধতীর সৌজন্যে মহাকাশ-দর্শন ছাত্র
বেলুন উৎক্ষেপণ কেন্দ্রের নেপথ্যে বাঙালি
চাঁদের পাথর কলকাতায়
২৭শে মহানগরে রাকেশ শমা
চাঁদের পাথর থেকে উল্কার খণ্ড, প্রথম মহাকাশ জাদুঘর শহরে
মহাকাশ বিজ্ঞান সংক্রান্ত সংগ্রহশালার উদ্বোধন রাকেশ শর্মার
দেশের প্রথম মহাকাশ জাদুঘরের
হবে বিশ্ববিদ্যালয়ও
কলকাতায় মহাকাশের মিউজ়িয়াম
নিজস্ব সংবাদদাতা

दैनिक भास्कर

2023-10-30
पटना (16)

कोलकाता • म्यूजियम ऑफ एस्ट्रोनॉमी एंड स्पेस साइंस में होंगी 1200 वस्तुएं

यहां 370 करोड़ साल पुराना जीवाश्म, नोबेल वैज्ञानिकों के हस्तलिखित नोट्स देख सकेंगे

पॉजिटिव पहलू

इस म्यूजियम के साथ देश की पहली स्पेस यूनिवर्सिटी खुल रही है। इससे नई पीढ़ी को अंतरिक्ष को लेकर नया सीखने को मिलेगा।

स्पेस साइंस में वर्ल्ड लीडर बनने का हमारा समय आ गया है

CAMPUS BUZZ

NEW MUSEUM ON THE BLOCK

As we entered the Space Hall of the Museum of Astronomy and Space Science on the campus of the Indian Centre for Space Physics at Mukundapur in south Calcutta, our eyes popped out. Scattered throughout were autographs of space heroes we had only heard of: Neil Armstrong, Buzz Aldrin, Mike Collins, Yuri Gagarin, Valentina Tereshkova. With the autographs were photos ... who's who. However, the ... eye catching was a per... 1:2 sized replica of the ... Brothers' aeroplane, ... with a cheque signed ... dorsed by Orville ... A half-size replica ... nik, a 1:10 scale size ... pean satellite INTE... 1:7 model of Isr... and a model ... ... members sitting at their command positions with 3D printed faces. The walls around depicted how the crew members were recovered after the module landed in the sea.

The mini-the... Aruna was showing 3I... of the Martia... the Visitors... Hall, we sa... moon, Mr... meteori... 370 cro... of Cy...

the "Black Hole of Calcutta" event and naming all the British soldiers who supposedly died in it. Astrophysical black holes, which are dead bodies of stars, got their names from this incident. There are books by all those who walked on the moon, some even signed ... them. Books signed by ... Penrose, Robert Mil... ...ndrasekhar ...dotted ... New

---

...ealisation about fragility of earth common among astronauts upon return: Rakesh Sharma

Former wing commander and astronaut Rakesh Sharma also said people should learn about sustainability before making attempts to find habitable places other than earth

November 01, 2023 03:56 pm | Updated 03:56 pm IST - Kolkata

Former wing commander and astronaut Rakesh Sharma during the inauguration of a museu...
Photo Credit: PTI

এই সময়

Space Museum Kolkata : রবিতেই কলকা... টিকিট থেকে কী কী দেখবেন? রইল খুঁটিনাটি

कोलकाता के अत्याधुनि... संग्रहालय में ... सच होगी चांद के पा... ...रत

> THE MUSEUM OF ASTRONOMY AND SPACE SCIENCE

DABJYOTI CHAKRABORTY

Where: Ensconced inside the Indian Centre for Space Physics in Kolkata, the unique museum was fittingly inaugurated by Rakesh Sharma, India's first man in space

What: The 7,000 sq. ft museum, filled with over 1,200 artefacts that have been sourced from auctions as well as donations from family collections, is open on Saturdays, Sundays, and national holidays

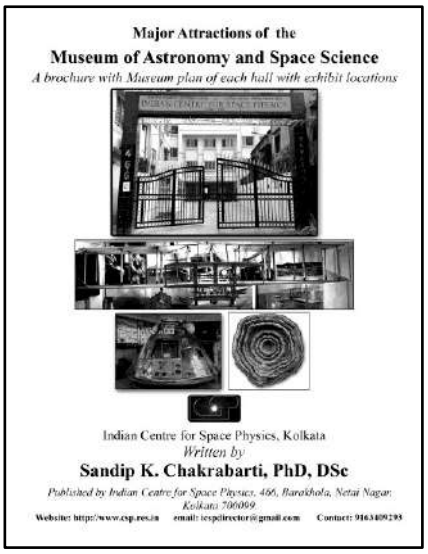
Expect: Exotic exhibits that range from Mars rocks to 3.7-billion-year-old bacteria fossils to strands of American astronaut Neil Armstrong's hair!


নিক ভাস্কর
পানীপত (6)
'ব্লৈক হোল অফ কোলকাতা' কী ঘটনা পর
অংতরিক্ষ কে ব্লৈক হোল কা নাম রখা থা
আত্মবিশ্বাসে ভর করে দৌড়তে হবে
বিজ্ঞান ও উত্তরসূরি, গল্পআড্ডায় 'রত্ন-জাত'রা
চোখ মহাবিশ্বের অসীমে, চর্চায় জ্যোতির্বিজ্ঞান
বলয়গ্রাস, মেঘ ঢ
দক্ষিণ এশিয়া নিয়ে নতুন দাবি ফ্র্যাঙ্ক
তুরস্কের মনো
মহাকাশে খোঁজ পাওয়া গেল 'শিব' ও 'শক্তি'র
দেশের দ্বিতীয় বেলুন উৎক্ষেপণ কেন্দ্র বাংলার চন্দ্রপ
বীরভূমে দেশের দ্বিতীয় বেলুন উৎক্ষেপণ কেন্দ্র, গবেষণায় নতুন দিশ
মহাকাশ চর্চায় অংশ নেবে বীরভূম! ভারতের হায়দরাবাদের পরে এই জেলা... হচ্ছেটা কী?

Books Published by ICSP

Many Books like "Mahabiswa o Ami"(2000 – 2007), "New views on Microquasars" and "Recent trends in astro and plasma physics in India" were published by ICSP .

FDCs, Stamp, and the Museum Booklet



Quarterly Newsletters initiated during the Silver Jubilee Year

Past and Present PhD Students of the Centre

Dr. D. Bhowmick

Dr. H. Sarkar

Dr. P. K. Jana

Dr. G. Tarafdar

Dr. R. Chottopadhaya

Dr. K. Achariya

Dr. P. Basu

Dr. S. Mondal

Dr. S. Pal

Dr. A. Das

Dr. D. Debnath

Dr. R. Sarkar

Dr. B. G. Dutta

Dr. P. S. Pal

Dr. S. Sasmal

Dr. S. K. Mondal

Dr. C. B. Singh#

Dr. S. Ray

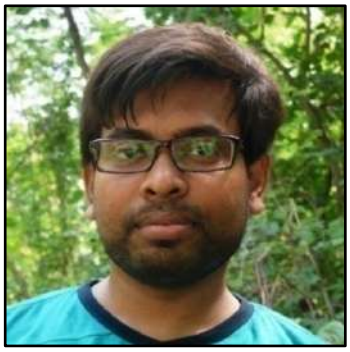
Dr. S. K. Majhi

Dr. T. Katoch

Dr. S. Palit

Dr. L. Majumdar

Dr. S. Mondal



Dr. D. Sahu

Dr. A. Chatterjee

Md. A. A. Molla

Dr. D. Patra

Dr. S. Nagarkoti#

Dr. S. Chakraborty

Dr. A. K. Choudhury

Dr. P. Gorai

Dr. A. Jana

#Nepalese citizens

Dr. D. Chatterjee

Dr. M. Sil

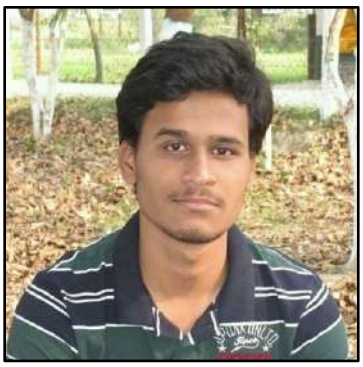
Md. W. Bari

Dr. A. Roy

Dr. B. Bhat

Dr. S. Chowdhury

Dr. S. Kundu



Dr. K. Chatterjee

Dr. S. Ghosh

Dr. S. K. Mondal

Dr. R. Ghosh

Dr. R. Bhowmick

Dr. S. Nath

Dr. R. Sikdar

Dr. S. Biswas

Mr. A. Bhattacharjee

Current PhD Students at the Centre

Mr. S. Chakraborty

Mr. K. Belwal

Mr. M. Bisht

Mr. S. Bhattacharya

Ms. S. Biswas

Mr. T. Bera

Current Pre-PhD Students at the Centre

Mrs. S. Roy

Mr. K. K. Chakraborty

Ms. A. Pyne

Mr. S. Adhikary

Ms. S. Dutta

Mr. K. G. Kalyankar

List of Students who Have Received the Ph.D. Degree / Submitted Their Thesis

Sl No.	Name	University	Year	Thesis Title
1	Dr. Pratap Kumar Jana	Jadvpur Unversity	2000	Chemical Kinetics Of Atmospheric Constituents And Itsrelation To Ozon Depletion
2	Dr. Dipak Bhoumik	Jadavpur University	2001	Studies On Luminiscent Emissions From Upper Atmosphere At Calcutta($22^0$35' N,$88^0$21'e)
3	Dr. Gautam Tarafder	Jadavpur University	2001	Airglow Emission And Their Chemical Kinetics
4	Dr. Rabindranath Chattopadhyay	Jadavpur University	2003	Study Of Some Specific Airglow Emission Lines,Related Chemical Kinetics And Their Dependence Of Different Solar Geographycal Paramiters
5	Dr. Tapan Kumar Nag	University of Calcutta	2003	Periodicity Of Various Kinds Of Solar Activity
6	Dr. Samir Mandal	Jadavpur University	2006	Theoretical Studies Of Spectral Properties Of Two-Component Advective Flows Around Black Holes
7	Dr. Sabyasachi Pal	Jadavpur University	2006	Radio Properties Of Galactic Compact Objects
8	Dr. Himangsu Sarkar	Jadavpur University	2006	Studies On Solar Radio Emission And Allied Phenomena
9	Dr. Kinsuk Acharyya	University of Calcutta	2007	Formation Of Complex Molecules During Star Formation
10	Dr. Prasad Basu	Jadavpur University	2008	Effects Of Massive Accretion Flows On Gravitational Wave Emission From Binary Systems
11	Dr. Ankan Das	University Of Calcutta	2009	Hydrodynamic Simulation Of The Formation Of Protostars During Molecular Cloud Collapse And The Chemical Evolution In These Processes
12	Dr. Ritabrata Sarkar	Jadavpur University	2010	X-Ray Studies Of Compact Objects:Data Analysis, Development Of Instruments And Their Characterization
13	Dr. Broja Gopal Dutta	University of Calcutta	2010	X-Ray Properties Of A Few Galactic Black Hole Candidates During Their Outbursts
14	Dr. Dipak Debnath	University of Calcutta	2010	X-Ray Properties Of The Sun And Some Compact Objects Of Our Galaxy
15	Dr. Chandra Bahadur Singh	Jadavpur University	2013	Analytical Studies Of Origin Of Out Flows From Accretion Disks Around Black Holes
16	Dr. Parthasarathi Pal	University Of Calcutta	2013	Time Dependent X-Ray Data From Flows Around Stellar Mass Black Holes And Their Implications
17	Dr. Sudipta Sasmal	Jadavpur University	2013	Study Of Terrestrial And Solar Energetic Phenomena Through Propagation Characteristics Of Very Low Frequency (Vlf) Waves
18	Dr. Sourav Palit	Jadavpur University	2013	Study Of Some X-Ray Imaging Devices In Space Astronomy
19	Dr. Sushanta Kumar Mondal	Jadavpur University	2014	Study Of High Energy Phenomena In The Universe Using Earth's Ionosphere As A Detectors

20	Dr. Suman Ray	University of Calcutta	2014	Study Of Very Low Frequency (Vlf) Radi Wave Propagation In Earth Ionosphere Wave-Guide And Its Applications For Possible Correlations Of Vlf Signals Anomalies With Seismicity
21	Dr. Liton Majumdar	University of Calcutta	2014	Hydrodynamics And Evolving Composition Of The Collapsing Interstellar Clouds
22	Dr.Tilak Katoch	Jadavpur University	2015	Study Of Solar Flares Using Indian Payloads Roentgen Telescope -2 (RT-2) On Board Coronas-Photon Satellite: Instrumentation, Observation & Data Analysis
23	Dr. Santanu Mondal	University Of Calcutta	2015	Spectral Properties Of Accretion Flows Around Black Holes In Presence Of Comptonization And Mass Loss
24	Dr. Surya Kanta Maji	University Of Calcutta	2016	The Effects Of Solar Eclipse On Signal Amplitude Of Very Low Frequency Radio Waves In Indian Sub-Continent
25	Dr. Dipen Sahu	University Of Calcutta	2016	Astrophysical Processes Leading To Deuterium Enrichment Of The Interstellar Medium
26	Dr. Asit Kumar Choudhury	West Bengal University of Technology	2017	Sources Of High Energy Radiation And Their Effects On The Very Low Frequency (VLF) Radio Signals
27	Dr. Suman Chakraborty	University Of Calcutta	2017	Modeling Of Lower Ionospheric Perturbations Effects On The Very Low Frequency Along Very Low Frequency Radio Wave Propagation Paths Due To Diverse Physical Phenomena
28	Md. Aslam Ali Molla	University Of Calcutta	2017	Observational Evidence Of Two Component Advective Flows Around Black Holes From The Analysis of Satellite Data
29	Dr. Arka Chatterjee	University Of Calcutta	2018	Effects Of Photon Bending On Observational Aspects Of Black Hole Accretion
30	Dr. Shreeram Nagarkoti	University Of Calcutta	2018	Criteria For Formation Of The Boundary Layer Of A Black Hole Accretion Flow And Estimation Of Viscosity From Observational Data
31	Dr. Prosanta Gorai	University Of Calcutta	2019	Gas-Grain Interaction And Spectral Properties Of Several Complex Molecules In The Interstellar Medium
32	Dr. Arghajit Jana	University Of Calcutta	2019	Trend Of Accretion Flow Parameters From Spectral And Timing Properties Of Outbursting Black Hole Candidates
33	Dr. Debjit Chatterjee	University Of Calcutta	2019	Study Of Physical Properties Of And Around Accreting Stellar Mass Black Holes
34	Dr. Milan Sil	University Of Calcutta	2021	Physics And Chemistry Of Star Forming Region In And Protoplanetary Disk
35	Dr. Soujan Ghosh	University Of Calcutta	2021	Study Of Tropospheric And Ionospheric Responses Of Pre- And Co-Seismic Irregularities Using Satellite And Ground Base Techniques
36	Dr. Swati Chowdhury	University Of Calcutta	2021	Ionospheric Response Of Terrestrial Phenomena By Wave Propagation Methods Using Ground And Space-Based Techniques
37	Dr. Subrata Kundu	University Of Calcutta	2021	Study Of Ionospheric Electron Density Distribution And Its Modulation Due To Various Perturbing Phenomena

38	Dr. Kaushik Chaterjee	University Of Calcutta	2021	Study Of The Spectral And The Timing Properties Of A Few Stellar Massive Black Hole Candidates During Their X-Ray Active Phases
39	Dr. Abhijit Roy	University Of Calcutta	2023	Comprehensive Study Of Cosmic Ray Interaction With Earth's Atmosphere By Monte Carlo Simulation And Small Balloon Borne Experiments
40	Dr. Suman Kumar Mondal	University Of Calcutta	2023	Understanding The Structure Of Hot Molecular Cores Through Analysis Of Observational Data
41	Dr. Dushmanta Patra	University of Calcutta	2023	Multi-Frequency observations of Radio Galaxies
42	Dr. Bratati Bhat	University Of Calcutta	2024	Extraction Of Physical Properties Of Interstellar Medium From The Observed Line Profiles
43	Dr. Riya Bhowmick	University Of Calcutta	2024	Outbursting Nature Of Compact X-Ray Binaries
44	Dr. Rana Ghosh	University Of Calcutta	2024	Understanding The Evolutionary Stages Of The Star-Forming Region By Chemical Diversity
45	Dr. Rupnath Sikdar	University Of Calcutta	2024	X-Ray Astronomy Using Low Cost Stratospheric Balloons
46	Dr. Sujoy Kumar Nath	University Of Calcutta	2024	Multi-Satellite Observations Of Several Low Mass X-Ray Binaries
47	Dr. Sagardwip Biswas	University of Calcutta	2025	Impression of Seismogenic and Solar-Terrestrial Phenomena in Ionospheric Radio Signal Signal Anomalies
48	Mr. Abhrajit Bhattacharjee	University of Calcutta	2025 (Submitted)	Properties Of Transonic Flows In Kerr Black Hole Geometry

List of Students Registered for PhD

Sl. No.	Name	University
1.	Mr. Sayak Chakraborty	University of Calcutta
2.	Mr. Kuldeep Belwal	University of Calcutta
3.	Mr. Mohit Singh Bisht	University of Calcutta
4.	Mr. Subhajit Bhattacharya	University of Calcutta
5.	Mr. Shraddha Biswas	University of Calcutta
6.	Md. Washimul Bari	Adamas University

Visitors at the centre

Mr. M. M. Majumdar

Mr. M. M. Samanta

Mr. M. Saha

Mr. R. S. Saha

Dr. K. Chakraborty

Mr. B. Banerjee

Dr. R. Bhunia

Mr. A. Sarkar

Mr. S. Sarkar

Mr. P. Sil

Alumni of the Centre

Dr. V. Yadav

Dr. A. Nandi

Prof. S. Mondal

Dr. S. Pal

Dr. A. Das

Dr. D. Debnath

Dr. R. Sarkar

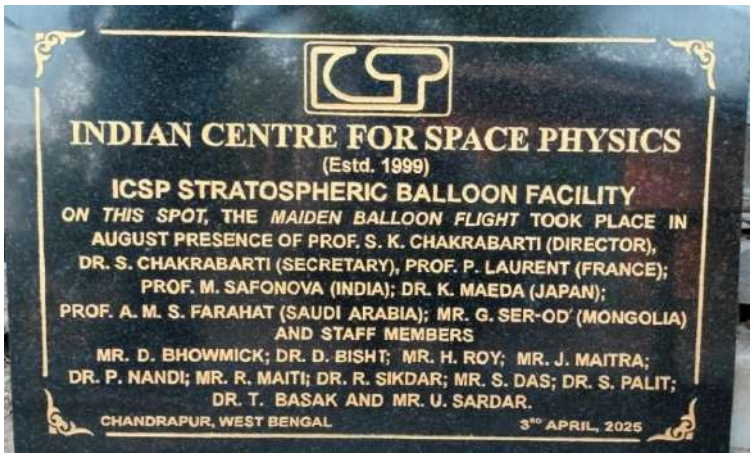
Dr. S. Pal

Dr. H. Ghosh

Dr. S. Sasmal

Dr. A. Raj

Commemoration of the Maiden Flight at ICSP Stratospheric Balloon Facility, Birbhum, West Bengal

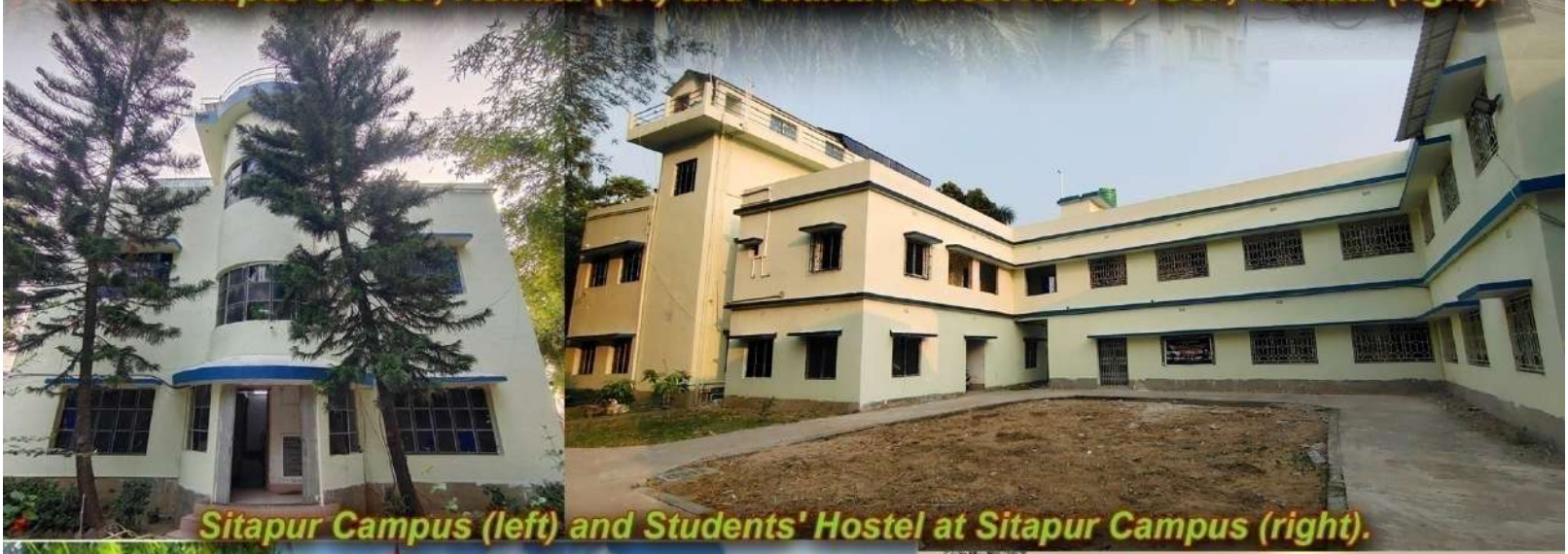


Commemorating Stone unveiled at the Balloon facility.

Group photo of the Invited Speakers at the International Conference on Astrophysics and Space Science with Meteorological Balloons.

(Top Left): First Test Flight from our balloon facility (2nd in India after TIFR facility in Hyderabad); (Top Right): Dignitaries unveiling the commemorative stone at the site; (Bottom): Recovery of the payload and the parachute of the test flight.

Main Campus of ICSP, Kolkata (left) and Chandra Guest House, ICSP, Kolkata (right).



Sitapur Campus (left) and Students' Hostel at Sitapur Campus (right).

Stratospheric Research Centre, Bolpur (left) and Stratospheric Balloon Facility, Chandrapur (right).

Present aerial view of ICSP (left), Sitapur Campus (center), and Stratospheric Balloon Facility (right).