

# History and Future



## The COSPAR Capacity Building Initiative

CARLOS GABRIEL - COSPAR PANEL ON CAPACITY BUILDING (CHAIR) - BANGALORE - INDIA - OCTOBER 2025

# Committee On SPace Research (COSPAR)

Established in 1958 by the ICSU to promote research in space

## COSPAR Statement of Principles

The **Principles** that COSPAR adheres to in pursuit of its Mission are:

- COSPAR promotes scientific research in space at an international level, with emphasis on the exchange of results, information, and opinions, and provides a forum, open to all scientists.
- COSPAR endeavors to ensure that a vibrant international space research effort can be conducted without impediment from geopolitical tensions or differences.
- COSPAR requires that presentations at its meetings and publications in its journals are the result of scientific research that was conducted with the highest ethical standards.
- COSPAR discloses any financial support that might be perceived as influencing its activities or positions it might advocate.
- COSPAR promotes diversity and gender equality in all of its activities, and will not tolerate any form of discrimination or harassment.
- COSPAR encourages meaningful roles in all activities for younger scientists, who are the future of international space research.

46 national scientific institutions + 13 international scientific unions



### India

Indian National Science Academy (INSA),  
Bahadur Shah Zafar Marg, New Delhi - 110 002  
Representative: K. Rajeev

# COSPAR's structure

## Scientific Commissions, Panels and Task Groups

COSPAR works through 8 Scientific Commissions, each focusing on various fields of space science:



**Commission A:**  
Space Studies of the Earth's Surface,  
Meteorology, and Climate



**Commission B:**  
Space Studies of the Earth-Moon System,  
Planets, and Small Bodies of the Solar System



**Commission C:**  
Space Studies of the Upper Atmospheres of the  
Earth and Planets Including Reference Atmosphere



**Commission D:**  
Space Plasmas in the Solar System,  
Including Planetary Magnetospheres



**Commission E:**  
Research in Astrophysics from Space



**Commission F:**  
Life Sciences as Related to Space



**Commission G:**  
Materials Sciences in Space



**Commission H:**  
Fundamental Physics in Space

COSPAR Panels focus on more specialized areas:



**Technical Panel on Satellite Dynamics**  
(PSD)



**Panel on Technical Problems Related  
to Scientific Ballooning** (PSB)



**Panel on Potentially Environmentally  
Detrimental Activities in Space** (PEDAS)



**Panel on Radiation Belt Environment  
Modelling** (PRBEM)



**Panel on Space Weather**  
(PSW)



**Panel on Planetary Protection**  
(PPP)



**Panel on Capacity Building**  
(PCB)



**Panel on Education**  
(PE)



**Panel on Exploration**  
(PEX)



**Panel on Interstellar Research**  
(PIR)



**Panel on Innovative Solutions**  
(PoIS)



**Panel on Social Sciences and Humanities**  
(PSSH)



**Panel on IDEA (Inclusion, Diversity, Equity,  
and Accessibility) Initiative** (PIDEA)



**Panel on Establishing a Constellation of  
Small Satellites** (PCSS)



**Panel on Machine Learning and Data Science**  
(PMLDS)

COSPAR Task Groups are:

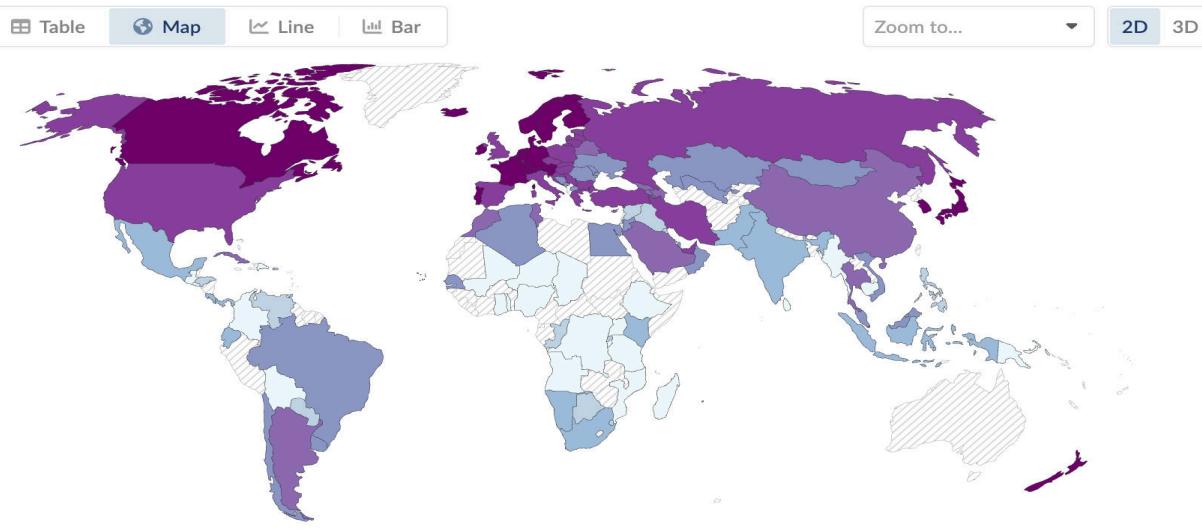
- URSI/COSPAR Task Group on the International Reference Ionosphere (IRI)
- COSPAR/URSI Task Group on Reference Atmospheres, including ISO WG4 (CIRA)
- Task Group on Reference Atmospheres of Planets and Satellites (RAPS)
- Task Group on the GEO (TG GEO)
- Task Group on Establishing an International Geospace Systems Program (TGISP)

# Scientific research - where, how, why?

## Number of R&D researchers per million people, 2023

Professionals engaged in conceiving or creating new knowledge, products, processes, methods, or systems.

Our World  
in Data



No data

0 100 200 500 1,000 2,000 5,000

Source: UNESCO (via World Bank)

Note: Postgraduate students are included.

[OurWorldInData.org/research-and-development](https://OurWorldInData.org/research-and-development) • CC BY

Number of researchers / country per million inhabitants

## Science in a developing country? Why?

- \* Basic science >> applied sciences >> health >> education
- \* Fundamental right to a share in the “scientific knowledge”

Space Sciences are  
important

*motivation, public interest, vision* unique in this domain  
expensive

\* however participation on different scales is possible  
>> scientific instruments, **research**, education

# Fostering science excellence in developing countries

*encouraging scientists in developing countries to use scientific data obtained from space missions*



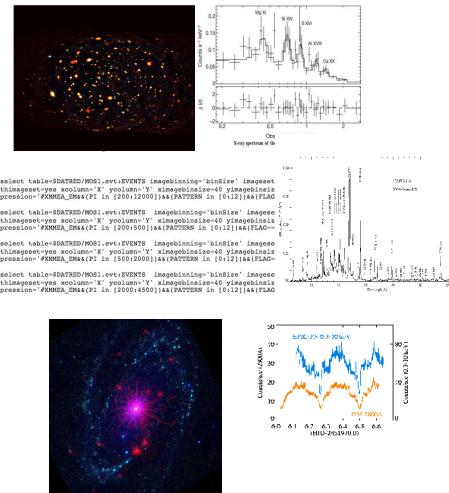
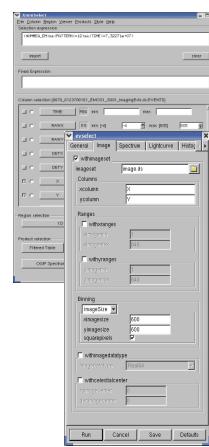
Prof. P. Willmore (1931-2021)

X-ray Astronomy - XMM-Newton

Vast amounts of data, (pre-)processed, offered publicly through modern archives

Solar Observatory - SOHO

Exploration - Mars express



*instructing students practically in the use of archives and associated analysis software*

*promoting professional bonds between workshop participants and experienced international scientists, reducing isolation*



# CBP: Capacity Building through practical workshops

- 35-40 students and 10-13 full time lecturers / supervisors
- brief (2 weeks) intensive workshops (60 h/week)
- 1/3 lectures - 2/3 hands-on data analysis
- projects carried out individually or in teams
- ends with presentation by each student on analysis & results



# Components of a COSPAR CB Workshop

Day / Date		Workshop Components									
		Arrival & Registration		Morning Session		Lunch Break		Afternoon Session		Evening Session	
Sun	16-Nov	9:00 - 10:00	10:00 - 11:00	11:15 - 12:15		13:15 - 14:15	14:15 - 15:15		15:30 - 16:30	16:30 - 17:30	17:30 - 18:30
Mon	17-Nov	Opening Ceremony	An Intro to High Energy Astronomy Mariano Mendez	X-ray detectors Matteo Guainazzi		The Missions I - XMM S/C & Instruments Carlos Gabriel	The Missions II - Chandra S/C & Instruments Doug Burke		The Missions III - Suzaku S/C & Instruments Yukikatsu Terada	Data Reduction I - Introduction to SAS Carlos Gabriel	Computer Class Setting up SAS, CIAO and FTOOLS
Tue	18-Nov	Data Reduction II - Introduction to CIAO Doug Burke	Data Reduction III - FTOOLS + Suzaku dedicated S/W Yukikatsu Terada	X-ray Spectrum Analysis I Low-resolution Spectra Keith Arnaud		X-ray Spectrum Analysis II - High-resolution Spectra Doug Burke	Data Red. IV - A more detailed look at SAS Matteo Guainazzi		Computer Class Project	Computer Class Project	Computer Class Project
Wed	19-Nov	Timing Analysis I Diego Altamirano	Source Searching Methods Carlos Gabriel	X-ray Emission Mechanisms I Elena Jiménez-Balón		Cataclysmic Variables / Novae / White Dwarfs Kim Page	Astrophysical Plasmas Mariano Méndez		Computer Class Project	Computer Class Project	Computer Class Project
Thu	20-Nov	AGNs I Matteo Guainazzi	Accretion Sources I Black Holes and Neutron Stars Mariano Mendez	Galaxies, Clusters and Groups I Keith Arnaud		X-ray Emission Mechanisms II Elena Jimenez-Balón	Spectral Timing Studies & adding NuStar to the Missions' Suite Diego Altamirano		Computer Class Project	Computer Class Project	Computer Class Project
Fri	21-Nov	Accretion Sources II Black Holes and Neutron Stars Diego Altamirano	AGNs II Matteo Guainazzi	Galaxies, Clusters and Groups II Keith Arnaud		Timing Analysis II Diego Altamirano	ISM & SNR Doug Burke		Computer Class Project	Computer Class Project	Computer Class Project
Sat	22-Nov	Excursion to San Pedro Mártir Observatory									
Sun	23-Nov										
Mon	24-Nov	Statistics Mariano Méndez	Future Development of X-ray Astronomy Keith Arnaud	Computer Class Project		Computer Class Project	Computer Class Project		Computer Class Project	Computer Class Project	Computer Class Project
Tue	25-Nov	Extragalactic Surveys Takamitsu Miyaji	Writing Proposals Elena Jiménez-Balón	Computer Class Project		Computer Class Project	Computer Class Project		Computer Class Project	Computer Class Project	Computer Class Project
Wed	26-Nov	Basics of Scientific Presentation Carlos Gabriel	Computer Class Project	Computer Class Project		Computer Class Project	Computer Class Project		Computer Class Project	Computer Class Project	Computer Class Project
Thu	27-Nov	Computer Class Project	Computer Class Project	Computer Class Project		Computer Class Project	Computer Class Project		Computer Class Project	Computer Class Project	Computer Class Project
Fri	28-Nov	Computer Class Project	Project Presentations	Project Presentations		Project Presentations and Closing Meeting					

**Example: Advanced School on X-ray Astrophysics (Ensenada, Mexico, 2014)**  
**“Data Analysis of the XMM-Newton, Chandra and Suzaku Missions”**

Science (32%)

Mission specific (11%)

Project (57%)

# Social aspects taken seriously into account

Common lodging and meals of lecturers and students

Excursion in the mid week-end

Theatre reading, music playing, dancing, karaoke



The COSPAR Capacity Building Initiative - COSPAR CB Hands-on Workshop with UVIT and JWST - October 2025 - Carlos Gabriel



# COSPAR Capacity Building Fellowship Program

Launched in 2009

To build further on skills gained in a workshop, through a visit (~ 2-6 weeks) to carry on joint research in a collaborating lab

Not for training purposes, but intended to foster research collaborations

So far 85 short internships in scientific centres of excellence - ending in many cases with publication in main journal

Recommendation: think about it, work for it

THE COSPAR CAPACITY BUILDING FELLOWSHIP PROGRAM AND ALUMNI

Last update Tuesday, May 2nd, 2023

## The COSPAR Capacity Building Fellowship Program and Alumni

IMPORTANT: This program is only for young scientists who have participated at one of the COSPAR Capacity-Building Workshops.

- Goals
- The Proposed Research Program
- Conditions of the Fellowship
- Applications
- Contacts for collaborating institutions
- Criteria for Selection
- Useful links

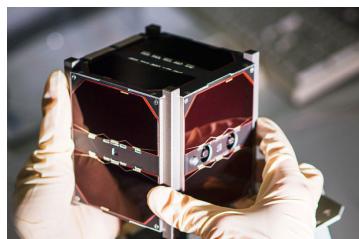


# All space science disciplines

Starting with X-ray astronomy

... to space crystallography

Through all space science disciplines



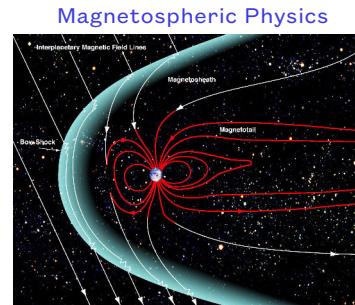
Small Satellites



Space Weather



Astrophysics



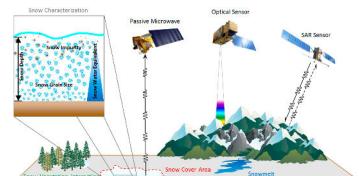
Magnetospheric Physics



Ionosphere



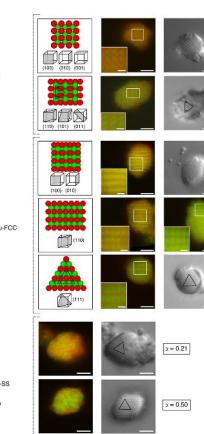
Solar Physics



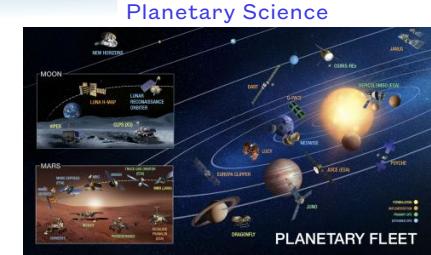
Remote Sensing



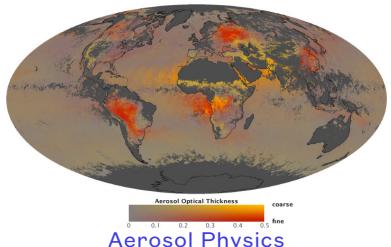
Oceanography



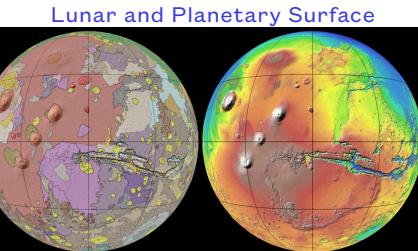
Space Crystallography



Planetary Science



Aerosol Physics



Lunar and Planetary Surface



Earth Observation

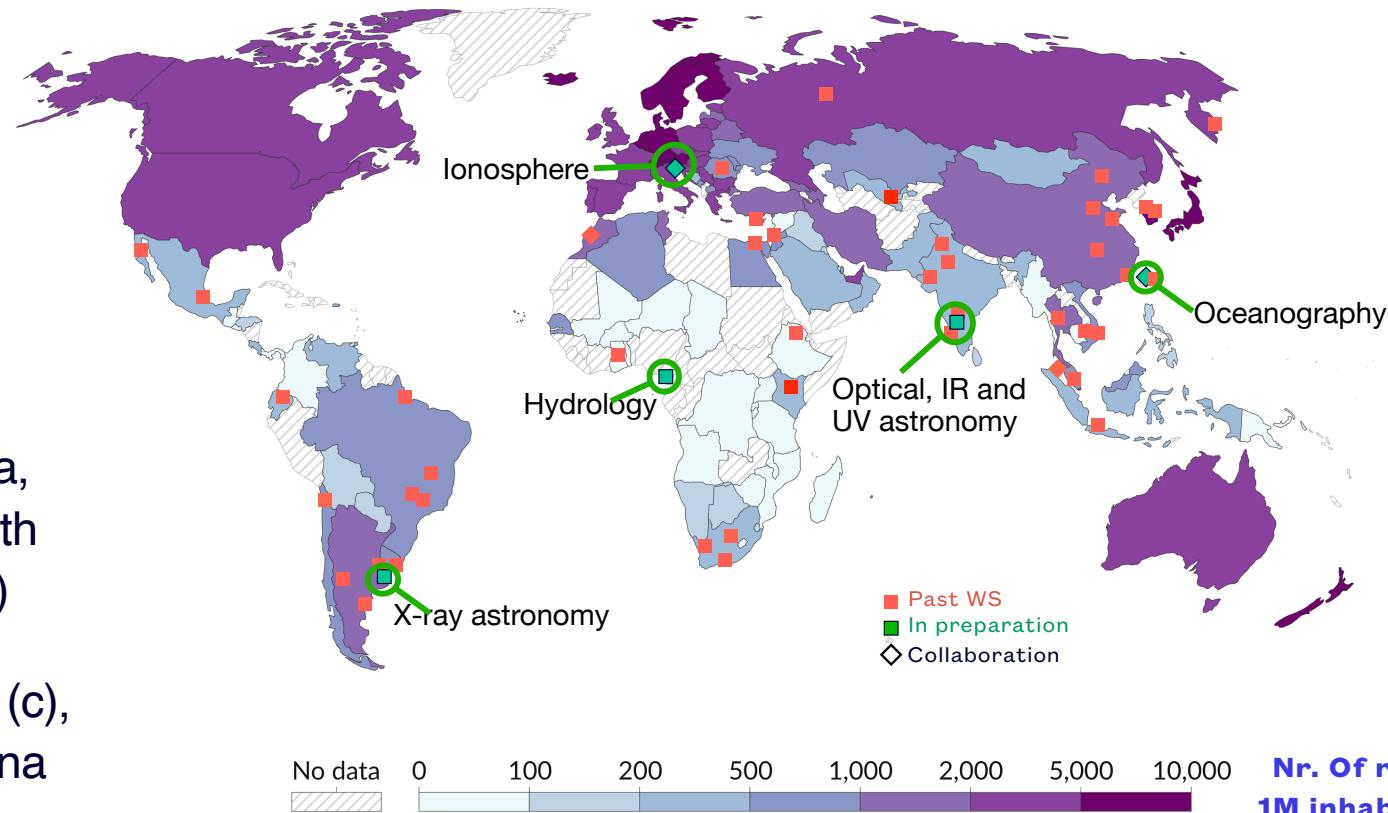
# Until 2025: 24 years

**52** highly practical  
workshops in **26**  
developing countries

More than **1500**  
researchers from more  
than **75** countries  
+ **87** fellowships

**4** in 2024 - Thailand, China,  
Uzbekistan and Kenya (both  
adding to list of countries)

**5** in 2025: Taiwan (c), Italy (c),  
India, Cameroon, Argentina



Data source: Multiple sources compiled by World Bank (2024)  
Note: Postgraduate students are included.

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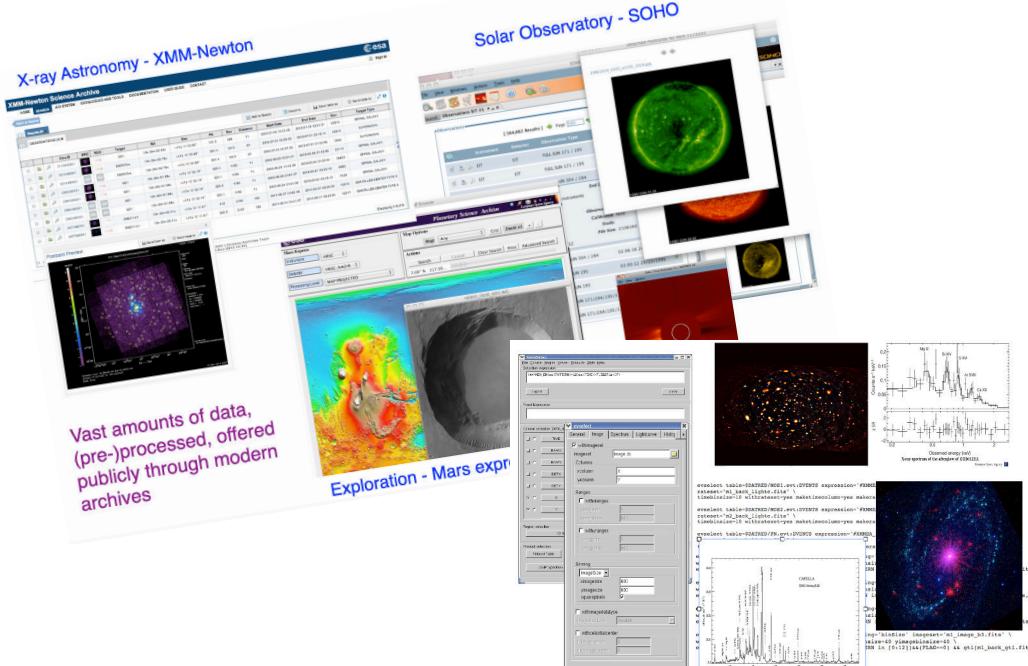
# List of workshops & Fellowships 2001-2023

#	Year	Topic	Missions	Where?	Fell	Fellows
#	Year	Topic	Missions	Where?	Fell	Fellows
1	2001	X-ray Astrophysics	JWST	Chiang Mai, Thailand	3	
2	2003	X-ray Astrophysics	SOHO, STEREO, SDO, Wind	Samarkand, Uzbekistan	2	
3	2004	Magnetospheric Physics				
4	2004	X-ray Astrophysics	XMM-Newton, Chandra, XISM	Fudan, China	1	
5	2005	Space Oceanography				
6	2007	Solar-Terrestrial Physics				
7	2007	Planetary Sciences	COSMIC I and II, GPS, GLONASS, Galileo, and Beidou	Kilifi, Kenya	1	
8	2008	X-ray Astrophysics	(ERDDAP), (GIS), GCOM-C	Keelung, Taiwan		
9	2008	Optical and Infrared Astronomy				
10	2009	Lunar & Planetary Sciences	COSMIC I and II, GPS, GLONASS, Galileo, and Beidou	Trieste, Italy		
11	2010	Gamma-ray Astrophysics				
12	2010	Earth observation	JWST, ASTROSAT/UVIT	Bangalore, India		
13	2011	Earth observation				
14	2011	X-ray Astrophysics	GPS, SWOT	Kribi, Cameroon		
15	2011	EO: Advances in Space Weather				
16	2012	Remote Sensing for Climate Change	XRISM, NICER, IXPE, NuSTAR	La Plata, Argentina		
17	2012	Infrared Astrophysics				
18	2013	X-ray Astrophysics	GPS, Galileo	San Jose, Costa Rica		
19	2013	Atmospheric Sciences				
20	2014	Matching of Observations from Seas (ITF)	PORSEC/COSPAR WS - Climate Change Impacts on Marine and Coastal Environments	(ERDDAP), (GIS), GCOM-C	Rabat, Morocco	
21	2014	Remote Sensing for Climate Change				
22	2014	X-ray Astrophysics	Mineral and Material Sciences for Space Exploration	Nairobi, Kenya		
			Earth-affecting Solar Transients	SOHO, STEREO, SDO, Wind	Cairo, Egypt	

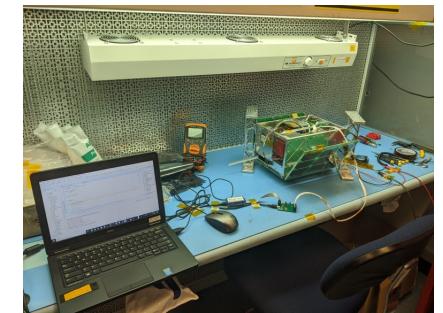
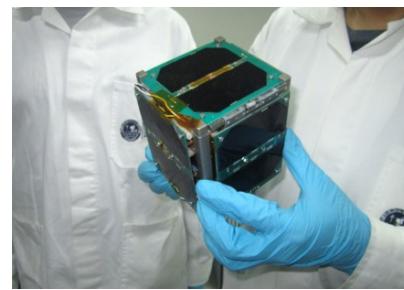
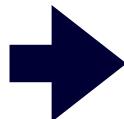
time Ionospheric Predictions

Beidou

# Fostering science excellence in developing countries



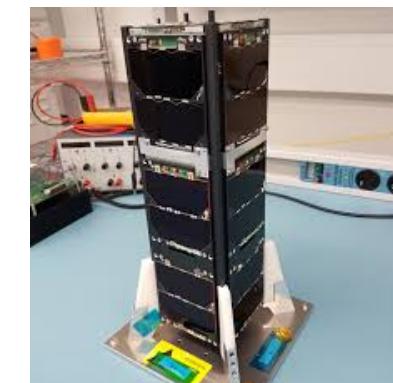
*encouraging **scientists** in developing countries to use **scientific data** from space missions*



*involving **students** in small-satellite design, building, testing, and operations + helping build-up of related **university labs***

# CB in developing countries with Small Sats?

- CB at **project team** level instead of individual researchers - (5-6 students + 1 supervisor per selected unit)
- Large **involvement of universities** in developing countries
- **Labs development** in those universities - long-term commitment
- Collaboration with Small Sats running projects in **one or several areas** - long-term
- CB **across campuses and nations**

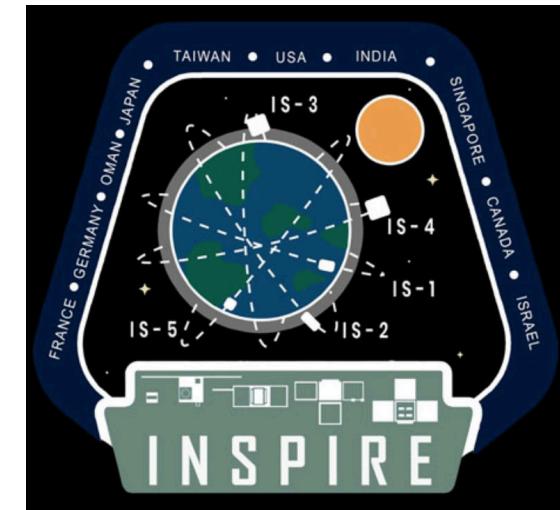


A new path for Capacity Building, based on helping universities in developing countries to build up local labs for development of nano satellites, training teams of students

**Collaboration with INSPIRE started in 2024**



## International Satellite Program in Research and Education Constellation of Satellites



Opportunity for undergraduate  
and graduate student  
involvement in small-satellite  
design, building, testing, and  
operations

# COSPAR CB Initiative with 'Small Sats'



*COSPAR initiates new programme:  
Building SmallSat capacity in developing  
countries*

12 September 2023

The Committee on Space Research (COSPAR) is pleased to announce the launch of a new Capacity Building programme through collaboration in the field of small satellites (Small Sats). Institutes and universities in developing countries which are interested in developing small satellites by setting up or expanding a local laboratory are invited to join the project.

## The COSPAR Small Sats Programme

The programme is expected to include a one-week workshop at a relevant centre leading or having a relevant position within a Small Sats project to which a selected institute sends a team of students in engineering, physics, computer science or related sciences for initial training. After returning to their home institute, the students will carry out collaborative work with that centre linked to a satellite being developed within this collaboration, in a mentor-mentee relationship. This collaboration will include the establishment or expansion of a local laboratory at the students' institute.

An initial agreement with INSPIRE network centres (<https://lasp.colorado.edu/inspire/>) will serve as a launching pad, but the Panel is open to other leading institutions interested in acting as mentors under this programme and in finding useful long-term collaborations this way. All costs related to the students' stay at the initial workshop, including a grant for travel costs, will be covered by COSPAR. Full details on how to apply to set up or develop a local laboratory in the programme can be found [here](#).

- Peruvian team of 5 undergrad engineering students (with some experience in the field) selected to participate in INSPIRE Summer School 2024 (May 28 to August 10)
- Development of 3U SmallSat COSPAR-1:
  - COSPAR-1: Space weather mission - 3U cubesat (with a solar spectral sensor, an Earth Radiation sensor and a radiation dosimeter payloads).
  - HEX-20 Flatsat lab testbed provided by COSPAR to be used for COSPAR-1 - important contribution to UNI local lab expansion
- Work started at LASP, continued in Peru - strong support from Peruvian authorities, finished in summer 25 at LASP
- Now building Ground Station in Peru, launch in 2026

RELEASE

# The mission: COSPAR-1

A LASP - UNI - NCU -  
HEX20 collaboration

## COSPAR-1 mission

The Cospar-1 mission will focus on the study of the components of the Earth's Radiation Budget and assess the Earth's Energy Imbalance, the monitoring of Spectral Solar Irradiance and Total Solar Irradiance, and the quantification of risk to satellite electronics by determining radiation dose rates and the Single Event Upset during their trajectory.

Properties	Value	Comments
Orbit	Sun-Synchronous Orbit (SSO)	
Design Lifetime	Minimum of 1 year in LEO	
Launch Date	2025	<ul style="list-style-type: none"> <li>Maximum altitude of 530 km, LTAN of 03:30 HMS</li> <li>2 years desired</li> <li>Launch Vehicle Partner: Skyroot Aerospace</li> </ul>
Cubesat Type	3U	
Launch Mass	6kg	
Dimensions	10 cm x 10 cm x 30 cm	<ul style="list-style-type: none"> <li>Easy-to-assemble modular design</li> <li>Subject to change</li> <li>No deployables</li> </ul>
Payloads	<ul style="list-style-type: none"> <li>(1) Compact Radiation Probe (CRP)</li> <li>(1) Earth Radiation Sensor (ERS)</li> <li>(1) Solar Spectral Sensor (SSS)</li> </ul>	<ul style="list-style-type: none"> <li>Designed to measure and monitor radiation levels in various environments.</li> <li>Designed to measure and monitor the Earth's radiation environment.</li> <li>Providing detailed information on the intensity and distribution of solar energy across different wavelengths.</li> </ul>
Power	<ul style="list-style-type: none"> <li>26 Solar cells on multiple sides</li> <li>Batteries 6700 mAH @ 16V</li> <li>26W Power generated about 3.59W consumed</li> </ul>	<ul style="list-style-type: none"> <li>Solar cells on each face of satellites</li> <li>(4) batteries with heaters</li> <li>OAP in LEO with LTAN of 03:30 HMS</li> <li>Day average - nominal operations</li> </ul>
Thermal Control Systems	Passive design	<ul style="list-style-type: none"> <li>Coatings</li> </ul>
Communication	<ul style="list-style-type: none"> <li>Uplink of 9.6 kbps</li> <li>Downlink of 9.6 kbps</li> <li>Contact station of ~51 minutes per day</li> </ul>	<ul style="list-style-type: none"> <li>UHF (FSK, AX.25) - 437 MHz</li> <li>UHF (FSK, AX.25) - 437 MHz</li> <li>LASP ground station</li> </ul>
ADCS	Single axis of passive stabilization	<ul style="list-style-type: none"> <li>The spacecraft shall be stabilized along the Y-axis using a permanent magnet.</li> </ul>



# Workshop in March 2025 @ Lima

## 1. State of the Project:

We reviewed the hardware status of every subsystem in the project

COSPAR-1 HW Status			
Subsystems	Status	Assigned to	Deadline
<b>EPS</b>	FM in production	HEX20	May
<b>CDH</b>	FM in production	HEX20	May
<b>ADCS</b>	FM in production	Tensor Tech	May
<b>SQ-UHF<sup>1</sup></b>	FM in production	Clyde Space	May
<b>Dosimeter<sup>2</sup></b>	FM delivered	NCU	March
<b>LSS<sup>2</sup></b>	FM delivered	LASP	April
<b>ERS<sup>2</sup></b>	FM in production	LATMOS	May
<b>IF<sup>3</sup></b>	Design	UNI-P	May
<b>Solar Panels</b>	Design	HEX20	June
<b>Structure</b>	Design	HEX20	July
<b>UHF Antenna</b>	Design	HEX20	June
<b>Battery Pack Build</b>	Pending	LASP	June
<b>Harnessing</b>	Pending	LASP	June

<sup>1</sup>SpaceQuest TRX-U Transceiver

<sup>2</sup>Spacecraft Payloads

<sup>3</sup>Interface Card



## Status → Plans → Schedule

### 3. Task Timeline and Assignments:

Some technical, administrative, and collaborative tasks were discussed

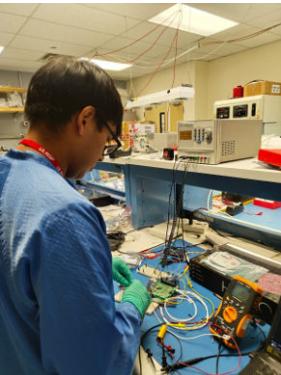
Tasks	Deadline	Assigned to	Notes
IF Design	April 18	UNI-P & HEX20	Weekly meetings. Need to ask CONIDA manufacture time
IF Manufacture	May 2nd	UNI-P	Send two to HEX20 and bring three to LASP
Share latest Structure CAD	As soon as possible	UNI-P	HEX20 will include deployable panels and ADCS
Mission Patch & Team T-shirts	May	UNI-P	Graphic Designer or team member in charge
Peru Mission Name	August	UNI-P	Make a contest. Rename the mission after launch
Send information for registration	May	Amal & Loren	Peruvian registration preferred. ITU / Freq. Tiling / 401 MHz
GS C&T <sup>1</sup> Definitions	July	UNI, HEX20, NCU, LASP	Development using OpenC3 Cosmos Software

<sup>1</sup>Ground Station Command and Telemetry

Summer 2025 Schedule	
General Tasks	Weeks
Review of mission	Week 1
Hardware review	
CDH - Dosimeter interfacing	
IF card checkout	
CDH - LSS interfacing	Week 2
Mechanical Overview	
CDH - ERS interfacing	
CDH - SQ TRX-U interfacing	Week 3
CDH - TT ADCS interfacing	
SAS Power Simulation	
Mechanical structure finalization	Week 4
Order of all final flight elements	
Mid program review	
LASP conformal coat of FM Boards	Week 5
First CPT (Continuous Performance Test)	
Software development	Week 6
Software development	
Second CPT	
Mechanical integration	Week 8
Integrated CPT	
Air bearing test	
ETE test (End to End Test)	Week 9
MOCK TVAC (Thermal Vacuum)	
Final review	

# 2nd Summer School @ LASP, Boulder

Integration, tests, ... yet final tests not finished



Laboratory for Atmospheric and Space Physics  
University of Colorado at Boulder

**COSPAR-1 Documentation**  
Document No. 2025  
Requirement Ref. NA      Action Item Ref. NA

#### Approvers List

	Title	Name
Prepared By	[Subsystem] Member	Cospar-1 Team
Approved By	Project Manager	Shatha Abueljebain
Approved By	Systems Engineer	
Approved By	Program Lead	Amal Chandran

#### Revision History

Rev	Date	Change Description	Pages Affected
-	27/7/2025	Initial Release	All
	15/8/2025	Modify document	All

- final testing in LASP
- launch in 2026

# COSPAR's PCB role

- COSPAR acts mainly as honest broker between members of a SmallSat collaboration, through
  - selecting a team / university from a developing country after open call
  - finding an experienced institution prepared to become their mentor
- Helps with the funding of the participation of the chosen team in an initial workshop, plus subsequent stays if necessary/beneficial for the project
- Contributes to necessary hardware for the expansion of the local lab
- Contributes to launch costs if necessary
- Helps to organize regular visits of mentors for supervision
- Special budget fully dedicated to Small Sats CB approved by COSPAR Bureau from 2025 on
- Looking for a possibly new structure inside COSPAR dedicated exclusively to CB with SmallSats

# Summary - CB Initiative

- The COSPAR CB initiative going strong after 25 years, last two years record-breaking
- Large diversification in space science disciplines... new countries adding to a long list
- Collaborations with other CB organisations
- Fellowships continue adding value to the Programme
- New CB initiative on Small Sats



## Summary - SmallSat CB Programme

- Excellent experience so far - as a prototype of new initiative extremely valuable
- Collaboration with LASP (+ NCU, Latmos, HEX20) exceeding expectations
- Selection of UNI team + UNI as partner confirming our main vision, with all the elements of CB expected in this initiative, including lab expansion
- Peru as a developing country is the main beneficiary of the programme, which has provided the country with access to high-value resources at a very affordable investment
- All team members received a technical preparation, which is a seed for UNI, to be used by new missions / other users of the laboratory
- The prospects for knowledge building through COSPAR-1 operations are excellent, extending to the scientific use of the data

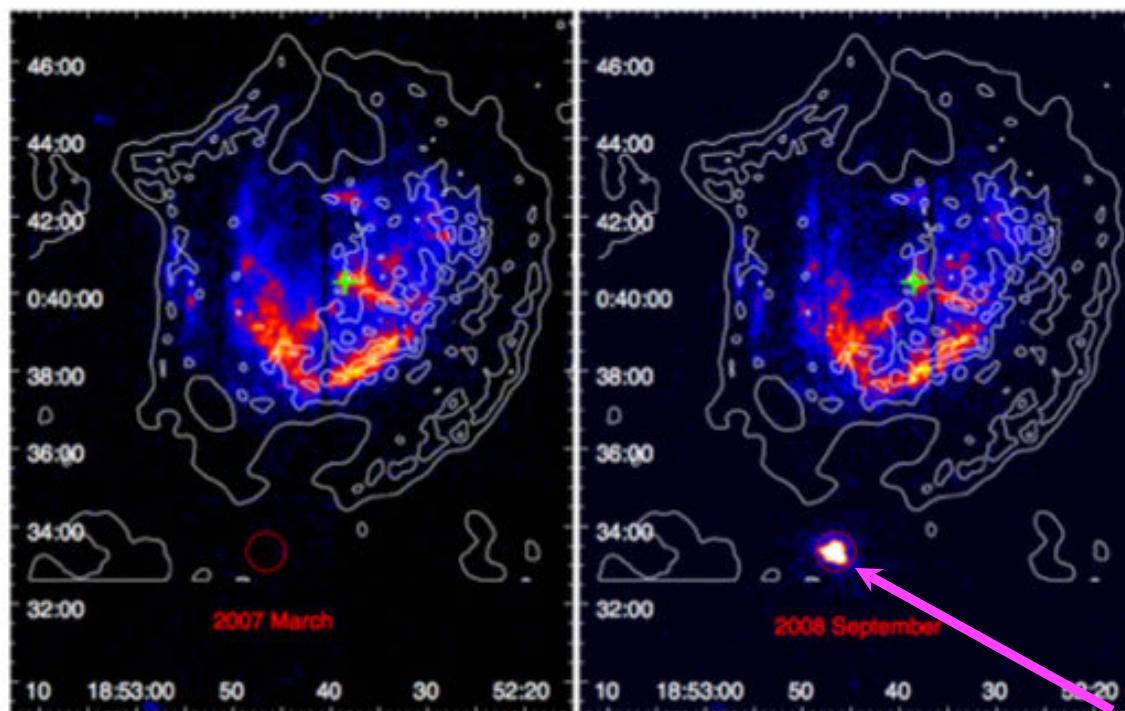
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Questions, comments?  
... time for a Bonus track?

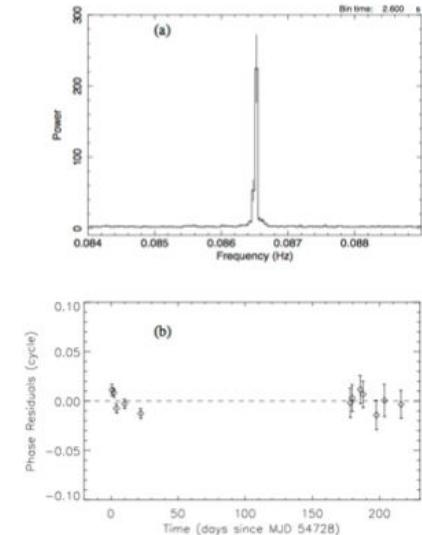
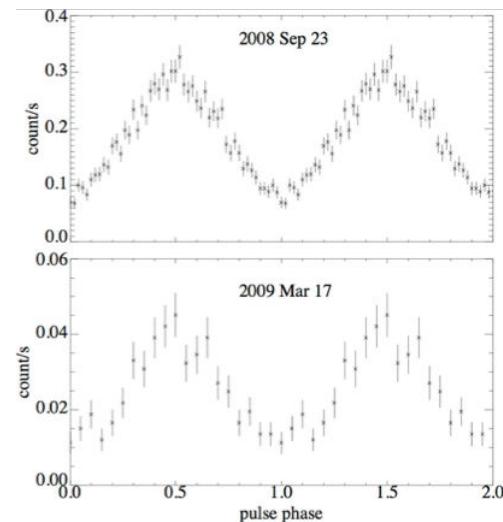
# Bonus track: a particular event in our CB history

X-ray astronomy CB Workshop (Xuyi, China, 9/2013)

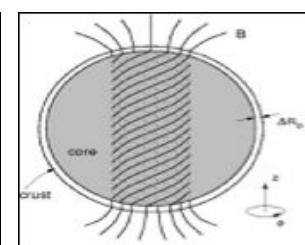
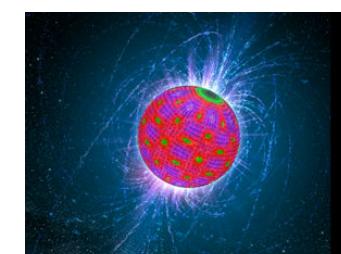
The student Ping Zhou revisited data from the XMM-Newton archive (observations of the SNR - Kes 79)



3XMM  
J185246.6+003317



**Magnetar:** neutron star with an extremely **high magnetic field**  
(unique labs to study physics of ultra-magnetized objects)



# Discovery of a magnetar: press releases

The combination of spectral and frequency properties, the non-detection of optical / IR counterparts, nor in X-ray archives:

>> **transient magnetar** with the longest period  $P \sim 12s$   
 >> **ninth transient magnetar discovered, third** of the low magnetic field class



WN.com / Rare magnetar found near supernova

### Rare magnetar found near supernova remnant

News Videos Video Details Wikipedia

The World from a Different Angle.

**T**weet Washington, Dec. 12 (ANI): Astronomers have discovered a new transient magnetar near supernova remnant SNR Kesteven 79. It is likely that the magnetar, an ultra-magnetic neutron star, was part of a binary star system together with an anti-magnetar. During a COSPAR training workshop, PhD student Ms. Ping Zhou from the University of Nanjing in China used X-ray images from ESA's X-ray telescope XMM-Newton from 2008 and 2009 to discover a bright source south of the supernova remnant that was not visible in

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### Press Release - Rare Magnetar

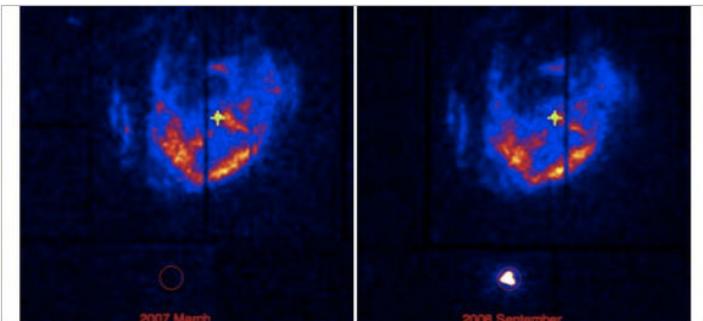
Rare magnetar discovered in the vicinity of a supernova remnant

A team of astronomers led by the PhD student Ms. Ping Zhou from the University of Nanjing in China discovered a new transient magnetar. This magnetar, the ninth of its class identified during a COSPAR Capacity Building Workshop for young researchers in countries.

### Zeldzame magnetar ontdekt nabij supernovarest

woensdag 11 december 2013, 16:00

Print Delen



De supernovarest SNR Kes 79 en de ontdekte magnetar 3XMM J186536.6+003317 in het röntgen in 2007 en 2008. Credit: Zhou et al. 2014

Een team van astronomen onder leiding van de Chinese promovenda Ping Zhou heeft een nieuwe veranderlijke magnetar ontdekt. De ontdekking van deze 9e magnetar in zijn soort is gedaan binnen een COSPAR Capacity Building Workshop voor jonge onderzoekers in ontwikkelingslanden. Mogelijk vormde de magnetar (een ultramagnetische neutronenster) een dubbelster met een anti-magnetar. De resultaten van het onderzoek worden gepubliceerd in het tijdschrift *Astrophysical Journal Letters*.

### Un raro magnetar descubierto en las cercanías de un remanente de supernova

12/12/2013 de NOVA/COSPAR

Un equipo de astrónomos dirigido por la estudiante Ms. Ping Zhou de la Universidad de Nanjing en China descubrió un nuevo magnetar transitorio. Este magnetar, el noveno de su clase, fue identificado durante unos talleres organizados por COSPAR para jóvenes investigadores de países en desarrollo. Es probable que el magnetar, una estrella de neutrones ultramagnética, formara parte de un sistema binario de estrellas junto con un antimagnetar.