



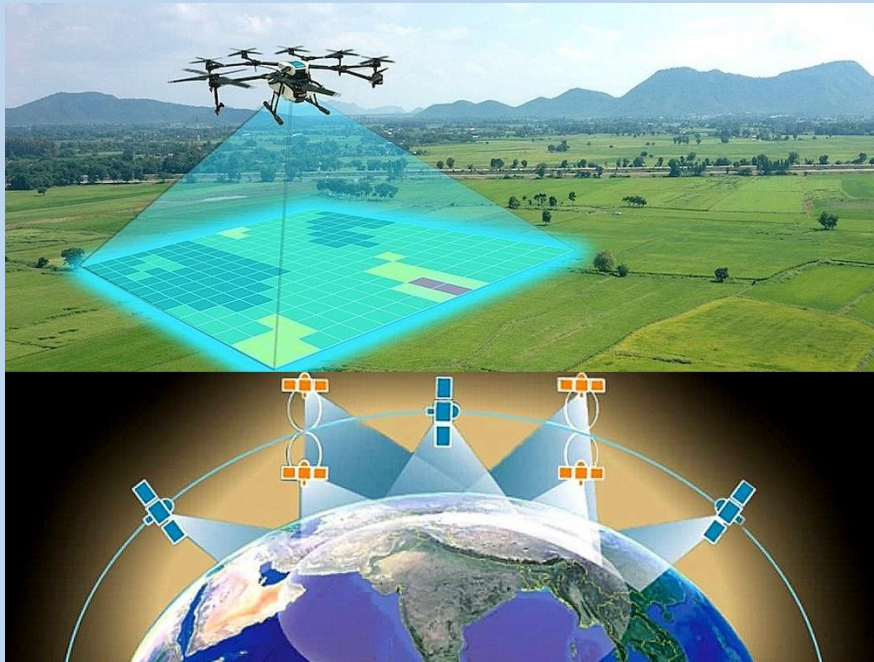
**Second Circular Final**

**41ST INCA INTERNATIONAL CONFERENCE**

**October 27-29, 2021**

**FOCAL THEME**

**CARTOGRAPHY FOR SELF-RELIANT INDIA**



**Organised by**

**INDIAN NATIONAL CARTOGRAPHIC ASSOCIATION**

<https://www.incaindia.org>

**Hosted by**

**DEPARTMENT OF GEOGRAPHY**

**PANJAB UNIVERSITY, CHANDIGARH**

<https://geography.puchd.ac.in/show-noticeboard.php?nbid=1>

**Patron**

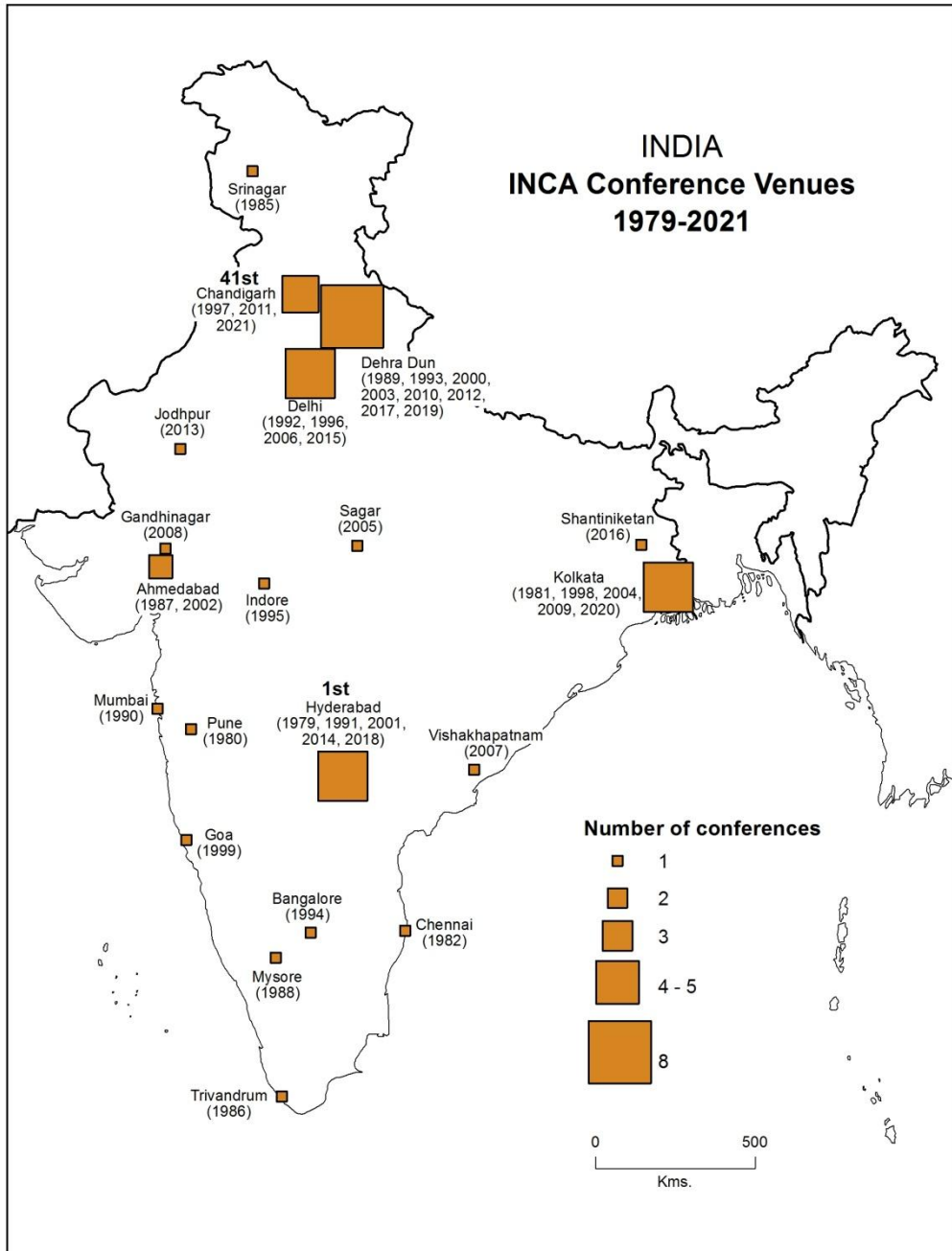
**PROF. RAJ KUMAR**  
Hon'ble Vice-Chancellor  
Panjab University  
Chandigarh

**President, INCA**

**PROF. KRISHNA MOHAN**  
Department of Geography  
Panjab University  
Chandigarh

**Email: [inca2021chd@gmail.com](mailto:inca2021chd@gmail.com)**

# THE JOURNEY OF INCA



## **INDIAN NATIONAL CARTOGRAPHIC ASSOCIATION (INCA)**

Founded on 7th August 1979 at Hyderabad, the Indian National Cartographic Association (INCA) has evolved into one of the world's most prominent professional associations of its kind. From a modest beginning with 79 members on its role initially, today it is a professional body with more than 3000 Life Members and 84 Institutional Life Members. It has branches functioning at Bengaluru, Mumbai, Kolkata, Chandigarh, Dehra Dun, Delhi, Gujarat, Hyderabad, Indore, Jodhpur, Kerala, Odisha and Tamil Nadu.

The major objectives of the association are:

- ▶ To foster cartographic research in the country.
- ▶ To co-operate with professional organisations of cognate disciplines and to promote academic interaction within an inter-disciplinary frame.
- ▶ To co-operate with international organisations with similar objectives.
- ▶ To improve the teaching of cartography at all levels.
- ▶ To foster co-operation between Government and Quasi-Government organisations, Research Institutions for the advancement of cartography.
- ▶ To hold a National Cartographic Conference, ordinarily, once in a year

INCA as an association provides an interface between academia, particularly geographers, geologists, earth scientists, technologists etc., and government institutions and geo-spatial industries involved in manufacturing of mapping and surveying tools and software, mapping and geo-spatial analysis. The symbiotic relationships among these bodies strengthen each other.

## **THE HOST**

Panjab University is a central and State Governments Funded University located in Chandigarh. It was established in 1882 as University of Punjab at Lahore (now in Pakistan).

The most recent milestones by the University are as follow:

- ▶ 2nd Rank in the Atal Ranking of Institutions on Innovation Achievements (ARIIA) amongst Indian Universities declared by Ministry of Education, Govt. of India in 2020
- ▶ Ranked 4th amongst Indian institutes/ universities by International Ranking Agency, the Times Higher Education (WUR) in 2019-2020
- ▶ Won the prestigious Maulana Abul Kalam Azad (MAKA) Trophy for best all-round performance in sports among Indian Universities for continuous two years in succession 2018-19 and 2019-2020

The University campus is spread over 550 acres (2.2 km<sup>2</sup>) of an area in sectors 14 and 25 of the city of Chandigarh. University has 78 teaching, and research departments and 15 Centres/Chairs for teaching and research. University has 188 affiliated colleges spread over Punjab and having one rural Regional Centre at Kauni, and 3 Regional Centres at Muktsar, Ludhiana and Hoshiarpur. In addition, University has 6 Constituent Colleges located at Sikhwala (Sri Muktsar Sahib), Balachaur (SBS Nagar), Nihalsingh Wala (Moga), Dharamkot (Moga), Mokham Khan Wala (Ferozepur) and Guru Harsahai (Ferozepur).

## **DEPARTMENT OF GEOGRAPHY**

The Department of Geography, one of the pioneer institutions, established in 1960 at Panjab University, Chandigarh is an important centre of teaching, learning and research in Geography. It enjoys a rich historical academic legacy. As per The Times Higher Education Asia Rankings 2018, the Department of Geography, Panjab University, Chandigarh, has been ranked No. 1 in India. It remains a top-ranking department in the country. Within the University, we stand at number one among social sciences departments in terms of total publications. It is a matter of pride for us. We have always responded to changing times and updated syllabus and teaching tools to ensure our relevance.

The University Grants Commission (UGC), New Delhi, recognising its quality work, covered the Department under Special Assistance Programme (SAP) in 1992. It remained under the Department of Special Assistance (DSA) from 1992 to 2009. It was elevated as the Centre of Advanced Study (CAS), UGC in 2009. The second phase of CAS, UGC (2015-2020) was completed in March 2020.

The Thrust Areas identified for research and teaching in the Department are Population Geography, Settlement Geography, Agricultural Geography, Geography of Ecosystem, Remote Sensing & GIS, Disaster Management, Regional Development and Water Resources. Over the years, the faculty has completed many research projects and authored many books and research papers. This Department is one of the few university departments in India with multiple specialisation options. As a result, the faculty has vast research experience and expertise in several applied fields of geography. It runs three Post-Graduate course: M.A. Geography, Masters in Disaster Management and Masters in Geoinformatics. In addition it offers PhD program. The Department provides a stimulating research/learning environment and the requisite research tools for training and research in every major branch of the subject. Besides quality teaching, the faculty is engaged in numerous researches both individually and in collaboration with colleagues from interdisciplinary fields at various other institutes in India and overseas.

**Department of Geography has very successfully conducted INCA Conference in 1997 and 2011. Our department is going to have this honour for the third time.**

## FOCAL THEME

**Cartography for Self-reliant India** as a focal theme of the conference derives direction and impetus from the government's vision of *Atamnirbhar Bharat*. The Government of India in recent past has taken many initiatives in promoting Geo-spatial technology. Bold government policies such as map policy, the remote sensing data policy, drone policy and unlocking space are the most encouraging decisions taken in the recent past. Based on the indigenous potentials, the vision aimed to build five pillars- incremental gains, modern infrastructure, a technology-driven system, vibrant demography, and a strong demand and supply chain of the country's economy. In every economic endeavour, including agriculture, finance, construction, mining, and local enterprise, India's farmers, small businesses, and corporations stand to gain tremendously from the application of innovative technologies based on modern geospatial data technologies and mapping services, according to the Indian Department of Science and Technology. As a result, this conference is designed to adopt a persuasive scholarly approach to the country's self-sufficiency goal. Given the importance of cartography in the geospatial world, the 41st INCA International Conference will be an excellent opportunity to provide decisive results.

## SUB-THEMES

- ▶ History of Cartography
- ▶ Theoretical Cartography
- ▶ Marine Cartography
- ▶ Mountain Cartography
- ▶ Popular Cartography
- ▶ Cartography and Public Health
- ▶ Cartography and Sustainable Development
- ▶ Cartography and Children
- ▶ Cartography for Early Warning and Crisis Management
- ▶ Toponymy in Cartography
- ▶ Education and Continuous Learning in Cartography
- ▶ Cartography, Privacy, and Ethics
- ▶ Unlocked Space: Cartographic Challenges Ahead
- ▶ Emerging Trends in Mapping
- ▶ Artificial Intelligence in Mapping
- ▶ Location-Based Services and Ubiquitous Mapping
- ▶ Sensor-Driven Mapping
- ▶ Participatory Mapping
- ▶ Military Mapping
- ▶ Mapping Urban Environments
- ▶ Mapping Post-COVID World
- ▶ Maps in the service of Humanity
- ▶ Maps and Accessibility
- ▶ User-Friendly Maps: Emerging Trends
- ▶ Digital Photogrammetry
- ▶ Open Geospatial Data and Technologies
- ▶ Spatial Data Infrastructure and Standards
- ▶ GNSS Applications
- ▶ Digital Image Processing
- ▶ Open Source Software Development

## **PARTICIPATION**

Individuals working in the field of cartography or its application in their respective fields can participate in the conference by registering them for the conference for (i) research paper presentation and/or (ii) poster presentation.

## **ABSTRACT SUBMISSION & FULL-PAPER PUBLICATION**

Interested authors are requested to submit their original research contribution in the abstract with a specified sub-theme in the footnote. It must not be exceeding 300 words with a maximum of 5 keywords, 1.5 spaced, 12 fonts, Times New Roman, justified on both sides containing a brief introduction, objectives, methodology, database, major findings and keywords. After the acceptance letter from the organisers, authors are required to submit a full-length paper of 10 pages, including tables, diagrams, maps, references, title, etc. The abstract must carry the author's name, designation, affiliation, contact number with STD or ISD code (e.g. +91-940000000) and email id. It is highly expected that the contributions should be authentic as per the research ethics of anti-plagiarism. The selected papers will be published either in a UGC recognised journal or an editorial volume with an ISBN. An additional charge (Rs.1200/-) will be applicable for the publication if the Editorial Board accepts the manuscript. Both the abstracts and full papers have to be submitted to the following email: [inca2021chd@gmail.com](mailto:inca2021chd@gmail.com)

## **POSTER PRESENTATION**

The author needs to prepare & print a standard-sized poster of 3×2 feet for a poster presentation.

## **REGISTRATION**

The participants are requested to register by submitting their Registration forms and fees on or before October 10, 2021. All the payments shall be made online. The details for payment shall be made available on the INCA website. [The payment will be accepted only from the selected participants.](#)

***Note: No abstract will be published in Abstract volume without the receipt of the registration fee on or before October 10, 2021.***

### **IMPORTANT DATES**

<b>EVENT</b>	<b>DATE</b>
Abstract Submission	<b>October 10, 2021</b>
Abstract acceptance	<b>October 10, 2021</b>
Full Paper Submission	<b>October 26, 2021</b>
Request for Exhibition	<b>October 10, 2021</b>
Request for advertising in souvenir	<b>October 10, 2021</b>
Registration closes on	<b>October 10, 2021</b>
Main Event	<b>October 27 to 29, 2021</b>

E-Mail for Abstract Submission: [inca2021chd@gmail.com](mailto:inca2021chd@gmail.com)

REGISTRATION FORM

41ST INCA INTERNATIONAL CONFERENCE

Focal Theme: **CARTOGRAPHY FOR SELF-RELIANT INDIA**

**Host:** *Department of Geography, Panjab University, Chandigarh*

October 27-29, 2021

Please use CAPITAL LETTERS or TYPE and return this form to: [inca2021chd@gmail.com](mailto:inca2021chd@gmail.com)

Name: \_\_\_\_\_ Designation/Position: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_ PINcode: \_\_\_\_\_

Country: \_\_\_\_\_ Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Mode of attending the conference (Online/Offline): \_\_\_\_\_

I wish to participate in the conference for:

▶ Research Paper Presentation: \_\_\_\_\_

▶ Poster Presentation: \_\_\_\_\_

▶ Both: \_\_\_\_\_

Title of the paper/poster: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Registration Category (INCA–Life Member, Student, Others, Foreign Delegate): \_\_\_\_\_

Registration Fee Details: ₹/\$ \_\_\_\_\_ Transaction ID: \_\_\_\_\_

Bank: \_\_\_\_\_ Dated: \_\_\_\_\_

If attending conference offline, then please specify:

Journey Details: Mode \_\_\_\_\_ Date of Arrival: \_\_\_\_\_

Date of Departure: \_\_\_\_\_ Mode: \_\_\_\_\_

Accompanying Person, if any: \_\_\_\_\_

Accommodation details (Hostel/Guest House/Hotel): \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**All payments must be made online. Bank details: Bank: CANARA BANK, Branch: 2845-Chandigarh  
Panjab University 160014, Account No: 110010215170, IFSC: CNRB0002845, MICR: 160015020**



## REGISTRATION FEE

Registration fee includes conference kit and catering on the conference days for physical participations. Student delegates attending the conference could avail discounted registration rates on submission of authorization from the concerned Departments of the University/College stating their bonafide status. There will be no spot registration this year. Online participants will get e-certificates, e-abstract volume and shall be provided access to attend technical sessions.

Physical participation of delegates in conference entry has been restricted to 100 persons due to the pandemic situation.

<b>Registration fee of the delegates</b>		
<b>FOR PHYSICAL PARTICIPATION (Local)*</b>		<b>TILL OCT 10, 2021</b>
Category of Participant	<i>INDIAN DELEGATES</i>	
Life Members	<b>₹ 3,000</b>	
For Students (Indian)	<b>₹ 2,000</b>	
Others (participants/delegates/members)	<b>₹ 3,500</b>	
<b>FOR ONLINE PARTICIPATION (NO RESTRICTIONS TILL OCT 10, 2021)</b>		
Category of Participant	<i>INDIAN DELEGATES</i>	<i>FOREIGN DELEGATES</i>
Life Members	<b>₹ 1,500</b>	<b>-</b>
For Students (Indian)	<b>₹ 1,000</b>	<b>-</b>
Others (participants/delegates/members)	<b>₹ 2,000</b>	<b>US\$ 100</b>

NB:

**\*Tricity (Chandigarh, Mohali & Panchkula)**

- ▶ Students need to send bonafide certificate from their institutions to avail concession.
- ▶ Change of options is subject to availability.
- ▶ Physical attendance of the members and delegates above 65 years and accompanying persons are not allowed due to the prevailing COVID-19 pandemic.
- ▶ Due to restrictions, registration (both online and offline) will be on a first-come-first-serve basis

## TOUR

Organisers may plan a short tour to places like Kasauli or Chail depending on situation and response of participants.

## **MEMORIAL/ SPECIAL LECTURES EVENTS**

### ▶ **Todarmal Memorial Lecture**

*To commemorate Raja Todarmal's contribution to the cause of land revenue and land survey for cadastral mapping, Indian National Cartographic Association organizes Todarmal Memorial Lecture in every INCA Congress/Conference. The first lecture in the series was delivered in the year 1994 and is being continued every year.*

### ▶ **S P Chatterjee Memorial Lecture**

*Prof. S. P. Chatterjee, the Founder Director of NATMO, was the doyen of cartography in India. To commemorate his systematic and scientific contribution in Geography and Cartography, S.P. Chatterjee Memorial Lecture has been introduced from XXIV INCA International Conference and is organized every year. This year it will be the 17th such memorial lecture in the series.*

### ▶ **Special Lecture in honour of Prof Shah Manzoor Alam**

*In recognition of contribution of Prof Shah Manzoor Alam towards INCA, who passed away on June 22 2021, a special lecture is being organised in 41st INCA international conference.*

## **AWARDS**

Following two major awards will be provided

- i. Best Paper Presentation Award
- ii. Best Poster Presentation Award

## **SPECIAL SESSIONS FOR INSTITUTES, INDUSTRY AND TECHNOLOGY**

### **PARTNERS**

Organisers will provide suitable platform to institutes, industry and technological partners sponsoring our events to display or present their software, instruments, publications, etc. A selected sponsored may be provided space to put up their stalls (subject to permission and COVID situation).

## **ABOUT CHANDIGARH**

Chandigarh, the city beautiful, is a planned city in India, with world-renowned architecture and quality of life. It is cosmopolitan in character. The city is known for the highest per capita income, cars, civic amenities, and the human development index. Picturesquely located at the foothills of Shivaliks, was designed by the French architect Le Corbusier. It came into existence in 1953. The Union Territory of Chandigarh is the capital of Punjab and Haryana, having a total area of 114 km<sup>2</sup> and a population over one million. The law and order in the city is excellent. It provides the best educational and medical facilities in the region.

## **ACCOMMODATION AND TRANSPORTATION**

Chandigarh is laden with enough accommodation options. Following most prestigious hotels of Chandigarh are managed by CITCO: Hotel Mountview in Sector 10, Hotel Shivalikview in Sector 17 and Hotel Parkview in Sector 24. In addition there are many other hotels such as Taj, JW Marriot, etc. The rates may be checked on their respective websites. Free accommodation will only be arranged for INCA Quiz award-winning students & one accompanying teacher. For the convenience of the delegates of the 41<sup>st</sup> INCA INTERNATIONAL CONFERENCE, special transport arrangements will be made for arrival and departure at Chandigarh International Airport (IXC), Chandigarh (CDG) Railway Station and ISBT Sector 43 Chandigarh Bus Stand, subject to prior intimation about the date, time and place of arrival and departure.

Delegates granted permission to attend the conference offline may send their itinerary and nature of accommodation including amount willing to pay per day. All the delegates have to pay for their accommodation.

Breakfast, Lunch, Dinner etc for offline delegates, subject to their information, will be freely available w.e.f. from Oct 26 (Dinner) to Oct 29 (Till lunch). All COVID protocols must be followed.

## **SOUVENIR CUM ABSTRACTS**

On the occasion of the 41st INCA INTERNATIONAL CONFERENCE, Souvenir will be released at the inaugural function by the Chief Guest. It will contain the abstracts of selected technical papers. It will also incorporate advertisements of products & services of advertisers.

The size of the Souvenir will be approximately 21 cm x 27 cm.

The rates are as follows:

<b>S. No</b>	<b>Contents</b>	<b>Rate (₹)</b>
1	Back Cover (colour)	100,000/-
2	Front/ Back inner cover (Colour)	60,000/-
3	Facing Front/ Back inner cover (Colour)	50,000/-
4	Full Page (Colour)	40,000/-
5	Full Page (Black & White)	30,000/-
6	Half Page (Black & White)	20,000/-
7	Quarter Page (Black & White)	10,000/-

Intending organisations/institutions/companies may send their requests for booking advertisement space in the Souvenir along with 'ready to print' (required colour separates) advertisement material in hard and soft copy. And they also require payment through conference website as per details given there.

Sponsorship rates for Stalls: Size of stall 10'X10' @Rs 25000 per day.

For three days: Rs 75000 (Oct 27-29) Complementary delegate per stall: ONE

## **SPONSORSHIP DETAILS WITH CHARGES**

Sponsorship Plans for leading partners such as Cartography and Remote Sensing, GIS, Consultancy, Technology, Public Sector organisations, Govt. Departments, industries, original equipment manufacturers, other agencies and individuals are requested to generously sponsor the 41st INCA International Conference as per the details mentioned below:

Strategic Sponsor	₹7.5 lakh (with free registration of 7 delegates & Logo display)
Platinum Sponsor	₹5.0 lakh (with free registration of 5 delegates & Logo display)
Gold Sponsor	₹3.5 lakh (with free registration of 3 delegates & Logo display)
Silver Sponsor	₹2.5 lakh (with free registration of 2 delegates & Logo display)

All the payments will be made online on the details provided on INCA website by October 10, 2021

Conference Kit: ₹6,00,000 + 18% GST (US\$ 9250); 3 delegates free, one folded double-page coloured advertisement in Souvenir, name on kit bags at one place, 10-minute presentation.

Patron Sponsor: ₹2,00,000 + 18% GST (US\$ 3100); 2 delegates free, one full-page advertisement in souvenir (coloured), 10-minute presentation, logo display

Cultural Evening: ₹1,50,000 + 18% GST (US\$ 2500); 1 delegate free, full-page advertisement in souvenir (mono), 10-minute presentation, banner display.

Lunch & Dinner: ₹2,50,000 + 18% GST (US\$ 4000); 2 delegates free, full-page advertisement in souvenir (mono), banners in dining area.

Inaugural Tea: ₹1,00,000 + 18% GST (US\$ 1600); 1 delegate free, half-page advertisement in the Souvenir (mono), banners in the dining area.

Tea during Breaks: ₹50,000 + 18% GST (US\$ 800); each session (Total four sessions); one delegate free, one half-page advertisement in the Souvenir (mono), banners in the dining area.

Co-Sponsor: ₹50,000 + 18% GST (US\$ 800); 1 delegate free, one half-page advertisement in the souvenir (mono), banner display at suitable places.

Organisations/Institutions/Companies desirous of sponsoring may forward their letter of intent to the Organising Secretary along with advertisement material and details by September 30, 2021.

## **NATIONAL EXECUTIVE BODY (INCA)**

### **OFFICE BEARERS**

<b>President</b>	:Prof. Krishna Mohan (Panjab University)
<b>Co-President</b>	:Sh. Naveen Tomar (Surveyor General of India)
<b>Past President</b>	:Dr. Tapati Banerjee (Director NATMO)
<b>Senior Vice President</b>	:Vice Admiral Adhir Arora, NM, Chief Hydrographer, GOI
<b>Vice President</b>	:Sh. Sajikrishnan K (NATMO)
<b>Vice President</b>	:Dr. S. Muralikrishnan (NRSC)
<b>Secretary General</b>	:Sh Pankaj Kumar (SOI)
<b>Secretary – I</b>	:Dr. K.Pramod Kumar (ADRIN, SAC)
<b>Secretary – II</b>	:Shri Rajesh Kumar (NHO)
<b>Treasurer</b>	:Shri P.Krishnaiah (NRSC)
<b>Chairman Editorial Board</b>	:Prof. V.C. Jha (VISHWA BHARATI UNIVERSITY)

### **EXECUTIVE MEMBERS**

Brig S Sridhara Rao(SOI)  
Ms. Anjana Banerjee(NATMO)  
Sh. O.P. Sarna(PANJAB UNIVERSITY)  
Dr .R.B. Singh(NHO)  
Dr. R.A. Prasad(NHO)  
Mrs. Sunanda Trivedi(ISRO, SAC)  
Prof. Premlata Singhi (K G Mittal College)  
Dr. Sukla Hazra(East Calcutta Girl's College)  
Dr. Swapna Saha(NATMO)  
Dr. Sucheta Mukherjee( S S College, Kalyani University)  
Dr. Vandita Srivastava(IIRS)  
Prof. Bimal Kumar Kar(Gauhati University)

## **LOCAL ORGANISING BODY**

### **ADVISORY COMMITTEE**

Prof. Gopal Krishan, Professor Emeritus, PU

Prof. R C Chandna (Retd.), Geography, PU

Prof. Swarnjit Mehta (Retd.), Geography, PU

Prof. Surya Kant (Retd.), Geography, PU

Sh. O.P. Sarna (Retd.), Geography, PU

Sh. Mehar Singh (Retd.), Geography, PU

Mr. Mohan Singh (Retd.), Geography, PU

Sh. Jaganath Dhiman, Cartographer (Retd.), PU

### **ORGANISING SECRETARY**

Prof. Gaurav Kalotra, Geography, PU

(M: 09872979948)

### **JOINT ORGANISING SECRETARY**

Dr. Vishwa Bandhu Singh Chandel, Geography, PU

(M: 09872833637)

### **TREASURER**

Dr. Sucha Singh, USOL, PU

(M: 08427756064)

### **ORGANIZING COMMITTEES**

<b>Technical Sessions</b>	Dr Vishwa Bandhu Singh Chandel (9872833637) Prof Karanjot Kaur Brar (9417193514)
<b>Abstract Volume and Certificates</b>	Dr Navneet Kaur ( 9915196445) Prof Dhian Kaur (9988881451)
<b>Transport &amp; Accommodation</b>	Prof Ravinder Kaur (9876240919) Mr Rahul Ratnam (8054863686)
<b>TA DA &amp; Registration</b>	Dr Sucha Singh (8427756064)
<b>Media and Press</b>	Prof Smita Bhutani(9779141517) Dr Suman Dadwal (9988673381)
<b>Cultural Program &amp; Excursion</b>	Prof Simrit Kahlon (9814163093) Dr Sucha Singh (8427756064)



**From:**

**PRESIDENT, INCA**

**Prof. Krishna Mohan**

Department of Geography, Panjab University, Chandigarh

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**Email:** [inca2021chd@gmail.com](mailto:inca2021chd@gmail.com)

**Website:** <https://www.incaindia.org>