## PROGRAMME SCHEDULE



The 7th Conference on Science & Geopolitics of

# **ARCTIC AND ANTARCTIC**

The Future of Arctic Ice

An Indo-Pacific Connect



India International Centre, New Delhi | April 27-28, 2023















Ministry of Earth Sciences ights.org.in

The 7th Conference on Science & Geopolitics of

## ARCTIC AND ANTARCTIC

### The Future of Arctic Ice

An Indo-Pacific Connect

### **PROGRAMME SCHEDULE**

#### Day 1 - April 27, 2023

0900 - 1000	REGISTRATION
1000 - 1140	INAUGURATION
1000 - 1005	Introduction to SaGAA: <b>Dr. Sulagna Chattopadhyay</b> , President, SaGAA; Editor-in-Chief, Geography and You.
1005 - 1010	Welcome Address: <b>Dr Rasik Ravindra,</b> Chairman SaGAA 7
1010 - 1020	Guest of Honour:  HE Mr Hans Jacob Frydenlund,  Ambassador of Norway to India
1020 - 1030	Special Guest: Shri Sanjay Verma Secretary (West), Ministry of External Affairs
1030 - 1040	Distinguished Guest:  Ambassador Pankaj Saran  Convenor NatStrat, Fmr Deputy National Security Adviser, Government of India

### April 27, 2023

1040 - 1055	Chief Guest: <b>Dr M Ravichandran</b> Secretary, Ministry of Earth Sciences	
1055 - 1100	Concluding Remarks and Vote of Thanks:  Prof N C Pant  Co-Chairman SaGAA, (Fmr) Department of Geology, Delhi University	
1100 - 1120	Plenary: Title: Climate Change and the Arctic Sea Ice: Lessons learned and Future Strategies. Dr R Krishnan, Director, Indian Institute of Tropical Meteorology, Pune	
1120 - 1140	Plenary: Title: Indigenous people and their melting abodes Er. Sonam Wangchuk, Inventor and Educator, Director, HIAL	
1140 - 1200	Tea Break	
1200 - 1400	Technical Session 1	
PRESERVING THE POLES   THE DYNAMICS OF CHANGE		
Chair: Dr. M N Rajeevan, Former Secretary, Ministry of Earth Sciences, Govt. of India Co-Chair: Dr Gopal Iyengar, Scientist G, Advisor, Ministry of Earth Sciences, Govt. of India		

### April 27, 2023

Time	Title	Speaker
1200 -1215	Permafrost Pathways in the Arctic and the Himalaya.	<b>Dr Santonu Goswami,</b> Associate Professor, Azim Premji University, Bangalore
1215 - 1230	India's expanding role in Arctic Science	<b>Dr. Anand Jain,</b> <i>Project Scientist</i> , National Centre for Polar and Ocean Research, Goa
1230 - 1245	Summer variability in bio-optical properties and phytoplankton pigment signatures in two adjacent high Arctic fjords, Svalbard	Dr Sarat C Tripathy, Scientist F & SIC (Oceand Sciences), National Centre for Polar and Ocean Research, Goa
1245 - 1300	Changes in the Arctic Ocean and the Need for Sustained Observations	<b>Dr Paul Dodd,</b> <i>Scientist,</i> Norwegian Polar Institute, Norway
1300 - 1315	Exchange of Mass/ Particle across air- ice-sea interface in Southern Ocean	<b>Dr Jenson George</b> , <i>Scientist</i> , National Centre for Polar and Ocean Research, Goa

### April 27, 2023

1315 - 1330	Recent Antarctic Sea- lce record low: Role of Ocean-Atmospheric Forcing	<b>Dr Avinash Kumar,</b> <i>Scientist,</i> National Centre for Polar and Ocean Research, Goa
1330 - 1345	Predicting Tipping Points for the Future Collapse of the West Antarctic Ice Sheet and Sea Level Rise from Pliocene- Pleistocene Records	<b>Dr Waliur Rahaman,</b> <i>Scientist,</i> Cryosphere Science Division, National Centre for Antarctic and Ocean Research, Goa
1345 - 1400	Q&A and Group Photo Session	
1415 - 1500	Lunch Break	
1500 - 1600	PANEL DISCUSSION	
	Discussion Panel 1: Challenges in Managing the Oceans - Scientific, Economic and Strategic Context	
	Chair: Dr Ravichandran, Secretary, Ministry of	
	Earth Sciences, Govt. of India	
	Co-chair: Dr Satheesh Shenoi,	
	Former Director, Indian National Centre for Ocean	
	Information Services, Hyderabad	

## April 27, 2023

	Discussants:	
	<b>Dr T Srinivasa Kumar,</b> <i>Director</i> , National Centre	
for Ocean Information Services (Ocean Advisory		
	Dr M A Atmanand, Former Director, National	
	Institute of Ocean Technology, Chennai	
	(Technological Innovations)	
	<b>Dr S Rajan,</b> <i>Fmr Director</i> , National Centre for Polar	
	and Ocean Research, Goa (Conflicts and Law of	
	the Sea)	
	Captain Sarabjeet S Parmer, Senior Fellow,	
	National Maritime Foundation (Arctic Ocean	
	Common Heritage	
	Mankind - CHM)	
	<b>Dr G. Latha</b> , Head - Ocean Acoustics and Scientist	
	G, NIOT (IndArc Ocean Data)	
1600 - 1615	Tea Break	
1615 - 1900	Technical Session 2	
	ONE WORLD TECHNOLOGIES   SHARING	
	INNOVATIONS	
Chair: Dr. Shailesh Nayak,		
Director, National Institute of Advanced Sciences, Bangalore		
Co-chair: Dr R Krishnan,		
Director, Indian Institute of Tropical Meteorology, Pune		

### April 27, 2023

Time	Title	Speaker
1615 - 1630	Innovations in Cryospheric Research using Space based Technology	Dr R P Singh, Director, Indian Institute of Remote Sensing, ISRO, Government of India
1630 - 1645	Indian Inputs in the Technological Innovations in Deep Ocean Mission	<b>Dr G A Ramadass,</b> <i>Director,</i> National Institute of Ocean Technology
1645 - 1700	Green Hydrogen Developments in Australia	<b>Dr Dilawar Singh,</b> <i>CEO,</i> Sun Brilliance Group, Australia
1700 - 1715	Technological Innovations in Geothermal Energy: Learnings from Iceland	Ms Kunzes Dolma, WING India Ambassador/ GRÓ GTP PhD Fellow, Iceland / Vice Chairperson, Sustainable Development Forum of Ladakh (SDFL)
1715 - 1730	Developing an Early Warning System in the Himalayas	<b>Dr O P Mishra,</b> <i>Director</i> , National Centre for Seismology, MoES, New Delhi
1730 - 1745	Early Warning System for GLOFs	Dr Miriam Jackson, Senior Cryosphere Specialist, International Centre for Integrated Mountain Development, Kathmandu, Nepal

### April 27, 2023

1745 - 1800	An idea for Early warning system for flash floods in Himalaya	<b>Dr Vimal Singh,</b> <i>Professor,</i> Department of Geology, Centre of Advanced Studies Delhi University
1800 - 1815	Green and Blue Growth: Prospects of the Southern Ocean Biomass	<b>Dr Tanu Jindal,</b> <i>Pro Vice Chancellor,</i> Director, Amity Institute of Environmental Toxicology, Safety and Management, Amity University, Noida
1815 - 1830	Assessing hydrological resources through innovative technologies	Dr Virendra M Tiwari, Outstanding Scientist & JC Bose National Fellow, CSIR-National Geophysical Research Institute, Hyderabad

## Day 2 - April 28, 2023

0930-1200	Technical Session 3	
	SCIENCE OF THE THREE POLES   CRYOSPHERIC BRIDGES	
Chair - Dr Th	amban Meloth, Directo	r, National Centre for Polar
and Ocean Re		
	Nalan Koc, Research Dir	ector, Norwegian Polar
Institute, Nor		
Time	Title	Speaker
0930 - 0945	Ground and Space based Monitoring of Cryosphere	<b>Dr S A Romshoo,</b> <i>Vice Chancellor,</i> Islamic University of Science and Technology, J&K
0945 - 1000	Space applications in study of Antarctic Ice-Sheet	Dr. Sandip R Oza, Scientist, Head Cyrospheric Science Division, Space Applications Center (SAC), ISRO, Bangalore
1000 - 1015	Antarctic RINGS Addresses a Critical Knowledge Gap that IPCC Identified for Future Sea-level Rise Projections	<b>Dr Kenichi Matsouka,</b> <i>Scientist,</i> Norwegian Polar Institute, Norway
1015 - 1030	Changing Glaciers and its Implication on Hydrology in Western Himalaya	Dr Parmanand Sharma, Scientist, Himalayan Cryosphere Studies, Polar Science Division, National Centre for Polar and Ocean Research, Goa

### April 28, 2023

1030 - 1045	Understanding the Himalayan Debris Covered Glaciers: Characteristics and Evolution	<b>Dr Aparna Shukla,</b> <i>Scientist, Hydrology &amp;</i> <i>Cryosphere,</i> Ministry of Earth Sciences, New Delhi
1045 - 1100	Climate Change And its Impact on Water Cycle over South Asia	<b>Dr K J Ramesh,</b> Fmr DG, Indian Meteorological Department
1100 - 1115	Sea-Ice Dynamics in the Arctic Using a Multi-model Ensemble Approach	<b>Dr Vimlesh Pant,</b> <i>Professor</i> , Centre for Atmospheric Sciences, Indian Institute of Technology, New Delhi
1115 - 1130	Understanding Glaciers and Glacial Lake Responses across the Sikkim Himalayas	<b>Dr Manasi Debnath,</b> Assistant Professor, Nagaland University
1130 - 1145	Q&A and Group Photo Session	
1145 - 1200	Tea Break	
1200 - 1345	Technical Session 4	
BETTERING OUR WORLD   NEW IDEAS AND ADAPTATION NEEDS		
Chair: Dr Parvinder Maini, Scientific Secretary, Office of		
Principal Scientific Advisor Cout of India		

Principal Scientific Advisor, Govt. of India **Co-Chair: Dr N C Pant,** Co-Chairman SaGAA, Fmr Prof Geology,
Delhi University, on the Anthropocene and the Antarctic

### April 28, 2023

Time	Title	Speaker
1200 - 1215	Accounting for Climate Change	Dr Monica Singhania, Professor, Faculty of Management Studies, University of Delhi
1215 - 1230	The Gender Equality in the Arctic (GEA)	Mr Hjalti Omar Agustsson, Special Advisor at Directorate of Equality, Iceland
1230 - 1245	Initiatives for IHR under National Mission on Sustaining Himalayan Ecosystem (NMSHE)	<b>Dr Nisha Mendiratta,</b> <i>Head,</i> Climate Change, Climate Change Programme-SPLICE, DST
1245 - 1300	Melting Glaciers and Sea-Level Rise	Dr Swapna Panickal, Scientist E, Indian Institute of Tropical Meteorology
1300 - 1315	A Home No More: Climate change and migration in select Himalayan tribes	Dr Bhaswati Das, Associate Professor Centre for the Study of Regional Development School of Social Sciences, Jawaharlal Nehru University, New Delhi

#### **April 28, 2023**

1315 - 1325	Engaging the youth in polar knowledge goals - Why Polar studies are even an option	<b>Dr Archana Dayal,</b> Postdoctoral Researcher, NERC Cryo365, Aberystwyth University, Aberystwyth
1325 - 1335	Q&A and Group Photo Session	
1335 - 1430	Lunch Break	
1430 - 1530	Discussion Panel 2	

The Myth of Northern Sea Route Offsetting the Malacca Chair: Major General B K Sharma, *Director*, United Service Institution of India (USI)

**Co-chair: Dr M Sudhakar**, *Former Director*, Centre for Marine Living Resources and Ecology, Kochi

#### **Discussants:** Cmde Debesh Lahiri, Executive Director, National

Importance of the Indo-Pacific Region and Climate Change

Ms Marit M Strand, Counsellor–Head of Cooperation, Climate, Energy, Health, Higher Education, Royal Norwegian Embassy, New Delhi Prof R Srikanth, NIAS on Transitioning World Energy Routes.

Dr Sulagna Chattopadhyay, President, SaGAA on the Northern Sea Route

Maritime Foundation, New Delhi on Strategic

#### **April 28, 2023**

1530 - 1730	<b>Technical Session 5</b>	
POLICY IMPERATIVES   SAFEGUARDING THE COMMON HERITAGE		
Chair: Ambas	sador Pankaj Saran, Co	onvenor, NatStrat, Former
	overnment of India	
	<mark>1 V Ramana Murthy</mark> , Ad	
National Centr	e for Coastal Research, (	Chennai
Time	Title	Speaker
1530 - 1545	India's Arctic Outlook for a Decade Ahead	Rear Admiral Monty Khanna, Assistant Military Advisor, NSCS, New Delhi
1545 - 1600	Redesigning Research Eco System	<b>Dr Rajeev Mehajan,</b> <i>Scientist - G and Advisor,</i> SERB, Department of Science and Technology
1600 - 1615	Arctic Melting Ice: Examining NSR- Indo-Pacific Circular Transport Corridor Prospect	<b>Dr R P Pradhan</b> , <i>Professor</i> , Department of Humanities and Social Sciences, BITS Pilani
1615 - 1630	Selected Values of UNCLOS in Indo- Pacific Maritime Security Trade and Transport.	<b>Dr Stuti Banerjee</b> , <i>Sr Research Fellow</i> , Indian Council of World Affairs, Sapru House, New Delhi.

#### April 28, 2023

		I
1630 - 1645	Revisiting Antarctica's Need for being fully Protected	Ms. Tiina Jortikka- Laitinen, Ambassador (Polar Issues), Head of the Antarctic Treaty Consultative Mechanism Host Country Secretariat, Ministry for Foreign Affairs of Finland
1645 - 1700	Exploring Oil Opportunities in the Arctic	Shri Sanjay Baveja, CGM, Business Development, Exploration Directorate, ONGC Videsh Ltd.
1700 - 1715	Marine Spatial Planning Arctic Ocean	<b>Cmde Sujeet Samaddar</b> , Founder, SAMDeS
1715 - 1730	Q&A and Group Photo Session	
1730 - 1745	Tea Break	
1745 - 1800	Panel Discussion 3	

Fate of Antarctic Treaty after 2047

Chair: Ms Tiina Jortikka-Laitinen, Ambassador (Polar Issues), Head of the Antarctic Treaty Consultative Mechanism Host Country Secretariat, Ministry for Foreign Affairs of Finland. Co-Chair: Dr Koteshwar Rao, Advisor, MEA

#### **April 28, 2023**

Discussants	Dr. N C Pant,
	Co-Chairman SaGAA, Fmr Prof Geology, Delhi
	University, on the Anthropocene and the
	Antarctic
	Dr Sanjay Chaturvedi,
	Professor and Dean, Faculty of Social Sciences,
	Department of International Relations, South
	Asian University, New Delhi on the Contradictions
	and hollowing of ATS.
	Dr Rasik Ravindra, Chairman, SaGAA,
	Fmr Director, NCPOR on Changing Priorities in the
	Antarctic .
	<b>Dr Rahul Mohan</b> on the Forthcoming 2024
	ATCM.

1800 - 1900	Valediction	
1815 - 1825	Summary Presentation: Dr Rasik Ravindra, Chairman, SaGAA	
1825 - 1830	Special Comments: Dr Nalan Koc, Research Director, Norwegian Polar Institute, Norway	
1830 - 1840	<b>Guest of Honour: Mr Gudni Bragason,</b> Ambassador of Iceland to India	
1840 - 1845	Expert Comments: Dr K J Ramesh, Former Director General, India Meteorological Department	
1845 - 1850	Special Comments: Dr M Sudhakar, Former Director, CMLRE, Kochi	
1850 - 1855	Concluding Comments: Dr B Meenakumari, Former Chairman, National Biodiversity Authority	
1855 - 1900	Vote of Thanks: Dr Sulagna Chattopadhyay, President, SaGAA, Editor-in-Chief, Geography and You	



#### LIGHTS