

# SaGHAA 2017: Focussing Climate Change

## Trends, Strategies and Solutions

FIRST CALL

Date: November 30 and December 1, 2017

### Tentative Programme

#### SESSIONS

**Inaugural Session:** Climate Science Policy Issues

**Theme 1:** Climate Change – Current assessment, International/India response and policies

**Theme 2:** Status of Himalayan Glaciers

**Rapid Shots:** 8 Presentations for 7 Minute each By Research Students

**Theme 3:** Geopolitics of the Poles (Arctic, Antarctic & Himalaya)

**Theme 4:** Arctic and Antarctic Glacial Research

### Tentative list of Participants

#### SPEAKERS

**Prof A L Ramanathan**, SES, JNU

**Dr Akhilesh Gupta**, Head, SPLICE, DST

**Dr A K Singh**, Director, DCFR

**Dr Amir Khan**, Delhi University

**Dr Amit Dharwadkar**, Director, GSI

**Dr Anil Bhardwaj**, Director, PRL

**Prof Anil K Gupta**, Director, WIHG

**Dr Anil V Kulkarni**, DV Scientist, IISC, Bangalore

**Dr Ankit Pramanik**, Arctic research, Svalbard, Norwegian Polar Institute

**Dr Anoop Tiwari**, Scientist E, NCAOR

**Dr Anupam Sharma**, OSD, DAE

**Prof A P Dimri**, SES, JNU

**Dr Argha Banerjee**, Assistant Professor, IISER, Pune

**Dr Arild Sundfjord**, Research Scientist, Oceanography, Norwegian Polar Institute

**Dr Ashwagosh Ganju**, Director, SASE

**Prof Bimal N Patel**, Director and Professor of Public International Law Gujarat National Law University, Gujarat

**Dr Dagfinnur Sveinbjörnsson**, CEO, Arctic Circle

**Dr D K Aswal**, Director, NPL

**Dr D P Dobhal**, Wadia Institute of Himalayan Geology, Scientist E

**Prof Dhruv Sen Singh**, SASG, Lucknow University

**Dr E N Rajagopal**, Director, NCMRWF

**Dr G A Ramdass**, Principal Scientist, NIOT

**Dr Gufran Beig**, Project Director, IITM

**Dr Kim Holman**, International Director, Norwegian Polar Institute

**Dr K J Ramesh**, DG, IMD

**Dr H S Negi**, Scientist E, SASE

**Dr L S Rathore**, Former DG, IMD

**Dr Luther Rangreji**, Director, MoEA

**Dr M N Rajeevan**, Secretary MoES

**Dr M R Bhutiyani**, Director, DTRL

**Dr M Ravichandran**, Director, NCAOR

**Dr M Sudhakar**, Director, CMLRE

**Dr Manish Tiwari**, Scientist E, NCAOR

**Dr Milap Chand Sharma**, Professor, SSS, JNU

**Dr N C Pant**, Professor, DU

**Prof Nalan Koc**, Research Director, Norwegian Polar Institute

**H E Nils Ragnar Kamsvåg**, Norwegian Ambassador

**Dr Nuncio Murukesh**, Scientist C, NCAOR

**Dr P S Goel**, Former Secretary, MoES

**Dr Parmanand Sharma**, Scientist E, NCAOR

**Dr Rameshwar Bali**, Professor, CASG, Lucknow University

**Dr R K Ganjoo**, Professor, University of Jammu

**Dr Rahul Mohan**, Scientist E, NCAOR

**Dr Rajiv Nigam**, Scientist G, NIO

**Dr Rakesh K Mishra**, Director, CCMB

**Dr Ravi S Nanjundiah**, Director, IITM

**Dr Ravishankar C N**, Director, CIFT

**Dr Richard Hawoth**, Adjunct Professor, Dalhousie University, Halifax, Nova Scotia, Canada

**Dr R Ramesh**, ISRO, GBP

**Dr S A Romshoo**, Head of Earth Science Dept, Kashmir University

**Dr S C Kar**, Scientist G, NCMRWF

**Dr S C Shenoj**, Director, INCOIS

**Dr S C Tripathy**, Scientist D, NCAOR

**Dr S K Parcha**, Scientist, WHIG, Dehradun

**Prof Sanjay Chaturvedi**, Professor, Punjab University

**Dr Satheesan K**, Cochin University

**Dr Shailesh Nayak**, Former Secretary, MoES

**Dr S Rajan**, Former Director, NCAOR

**Dr S Shivaji**, Center for Cellular and Molecular Biology, Hyderabad

**Dr S Suresh Babu**, Head and Scientist SF, VSSC, ISRO

**Dr S Mukherjee**, GSI, Faridabad

**Dr Swati Basu**, Scientific Secretary, PSA

**Dr Tanu Jindal**, AITETSM, Amity University

**Dr Tapan Misra**, Director, SAC, Ahmedabad

**Dr T N Krishnamuthy**, Professor Emeritus, Florida State University

**Dr Thamban Meloth**, Scientist F, NCAOR

**Dr Uttam Sinha**, Fellow, IDSA

**Dr V D Mishra**, SASE, Chandigarh

**Dr V K Soni**, Scientist E, IMD

**Dr V M Tiwari**, Director, NGRI

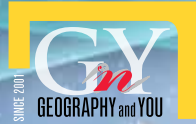
**Dr Walter Roest**, Senior Research Scientist, IFREMER

Organised By



LIGHTS (Learning in Geography, Humanities, Technology and Science)

Knowledge partner



In collaboration with



School of Environmental Sciences  
Jawaharlal Nehru University,  
New Delhi

# 4th Conference on Science & Geopolitics of HIMALAYA-ARCTIC-ANTARCTIC

# Focussing Climate Change



**NOVEMBER 30 and DECEMBER 1, 2017**

JNU Convention Centre,  
Jawaharlal Nehru University, New Delhi

Sponsored by



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Project Director, IITM

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Former Director, NCAOR

**Dr Gopal Iyengar**  
Advisor, MoES

**Dr Ajit Tyagi**  
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Scientist G, NCAOR

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## Context /

Changes in the Arctic, Antarctica and the Himalaya are challenging our understanding of their consequences and our ability to provide knowledge for decision-makers. There needs to be a greater sense of urgency among decision-makers and awareness by the public regarding the global importance of changes taking place in the polar realms. The countries undertaking research on the polar realms have developed specialized scientific skills that today comprise a shared resource for humankind. This uniqueness alongside the presence of different countries in a geographically hostile terrain makes it geopolitically relevant. Thus, the interface between science and geopolitics of Arctic and Antarctic becomes pertinent

But, it is critical to anticipate changes in the poles rather than respond to them. This requires sustained observations and improved understanding of local, regional and global processes. These research challenges must be addressed in a coordinated and timely manner. It is essential to build long-term human capacity to support relevant observations and research among scientists, decision-makers and public through education and by adopting shared principles to guide research activities.

LIGHTS Research Foundation has been working towards a convergence of these two emergent aspects for seven years now. To begin with, a National Conference was organised in 2011 followed by an International Conclave in 2012 based on this convergence. The 2015 event was conceived as having greater amalgamation of research with ground truthing with the addition of a dialogue on the third pole—the Himalaya.

The event, named the SaGHAA has over the years gained credibility. Within each forum, scientific and geopolitical, findings are shared and events organised. However, an interface within the two is few and far between in India. Since the tenets that determine the icy realms of Arctic, Antarctic and the Himalaya are based on science, it becomes important to debate issues on a platform where inter-disciplinary issues can be raised.

The Conference attempts to extend the context of a 'pristine area devoted to peace and science' to the Himalaya as well. The inclusion of the Himalaya in the discourse will help build an understanding of issues related to all three poles, especially in the context of tele-connections and

climate change.

## Focus /

Climate change and technological advancement have acted as big contributors in providing greater accessibility to the Arctic, Antarctic and Himalayan region. The rapidly changing polar realms initiate changes that cascade through the global system impacting weather, commerce and ecosystems in the more temperate regions. Linkages across disciplines, scales, and diverse knowledge systems must be addressed in future research activities.

Political and economic changes in the world order have led to considerable focus on the polar regions. Understanding the vulnerability and resilience of cryospheric environments and societies requires increased international cooperation. Further a pro-active stance of the new regime in the foreign policy and its positive and emphatic presence in the international fora has necessitated relook at our policy. More effective use must be made of local and traditional knowledge, and the dissemination of this knowledge by ensuring appropriate access to research data and results. New markets for these resources and associated activities, including trade, tourism and transportation, will likely emerge faster than the necessary infrastructures on land and sea. Sustainable infrastructure development and innovation to strengthen the resilience of these areas requires a collaborative approach involving scientists, communities, governments, and industry.

In this context, a consortium of scientists, policy makers and activists need to put together varied notions of research and ideas in order to promote developing views on global environmental and geopolitical governance.

## History of SaGAA /

### SaGAA III 2015

An international conference on Science and Geopolitics of Arctic-Antarctic-Himalaya (SaGAA 2015) was held at India International Centre, New Delhi, India during 29-30 September. Continuing the practice of previous two SaGAA Conferences it again brought together; thoughts, experiences, researches and advocacies on cold regions. Various sessions—Geopolitics of the Polar Region; Global Climate Change: Polar Region and Third Pole; Living and Non-living

Resources Potential: marine protected areas and geopolitics; Tourism Industry and the Poles were organised. These sessions not only helped to build better understanding of geopolitics but also brought new researches in front that are being carried around globe to understand dynamics and potential of these regions.

Eminent scientists including scientists such as Dr. P.S. Goel, Dr. Shailesh Nayak, Dr. M. N. Rajeevan, Dr. Sanjay Chaturvedi, Dr. Uttam Kumar Sinha, Dr. R. Krishnan, Dr. Geir Moholdt, Dr. Anil V Kulkarni, Dr. M.R. Bhutyani, Dr. David E. Rheinheimer, Dr. Ravishankar, Dr. Rajan, Dr. Rasik Ravindra, Thórir Ibsen, Marcus Holknekt, Grahame Morton and Sergey A Borovik contributed to the conference. It was an interactive conference with more than 100 cold region enthusiasts attending the Conference.

### SaGAA II 2012

The International Conference on Science and Geopolitics of Arctic and Antarctic (I- SaGAA 2012) in New Delhi was in continuation to SaGAA National 2011. The International Conference held between March 9 and 11, successfully bounded the session on Geopolitics: UNCLOS and the Global Commons Geopolitics of the Global Realms; Biotechnology: Microbial resources in Polar Regions Dynamics in Polar Marine Biodiversity (Prokaryotes, vertebrates and invertebrates) Information Exchange and Intellectual Property Rights, Resources of the Southern Ocean; Ice Core for Paleo Climate, Southern Ocean and Solar Impact: Sea ice melting, Ice core studies, Southern

Ocean Experiments Paleo climate studies; Polar Atmospheric Research: Ozone depletion Meteorological Studies.

Some of the senior scientists present were Dr. P S Goel, Dr. Shailesh Nayak, Dr. S.W.A. Naqvi, Prof. S. K. Tandon, Prof. John Turner, Dr. Timo Koivurova, Dr. Victor Smetacek, Dr. John P. Bowman, Prof. Nalan Koc, Prof. John M. Reynolds, Dr. George John, Dr. S. Shivaji, Dr. B. Meenakumari, Dr. S. Rajan, Dr. Ramesh, Dr. Rasik Ravindra apart from representatives from the countries such as United Kingdom, Finland, Germany, Australia, Norway and Chile. The participation of about 100 scientists was observed in the Conference. Marvelously remarkable was that the number of participants remained the same from the first day to the last day marking the riveting nature of the proceedings.

### SaGAA I 2011

The first National Conference on Science and Geopolitics of Arctic and Antarctic was held between January 14 and 15. The sessions saw the gathering of eminent scientists such as Dr. Shailesh Nayak, Dr. Ajit Tyagi, Dr. N.C. Mehrotra, Dr. Anil K. Gupta, Dr Rasik Ravindra, Dr. S. Shivaji, Dr. V.M. Tiwari, Dr. T. Meloth, Dr. Subba Rao, S. K. Mehta and many more. Dr S.K. Das and Dr Ravindran and Dr. M.Sudhakar also attended the proceedings. It was an extremely successful event which paved the way for the following Conferences on the subject.

## THEMES

### A. Climate Change – Current assessment, International/India response and policies

Changing climate scenario, tele connections of monsoons.

### B. Status of Himalayan Glaciers

Health of glaciers, Response to global warming.

### C. Geopolitics of the Poles (Arctic, Antarctic & Himalaya)

Coming to terms with Ice free Arctic, Pressures on Antarctic Treaty and sustainable development in Himalaya.

### D. Arctic and Antarctic Glacial Research

Insight into glaciological and palaeoclimate research in Polar Region.

