



IP **9**
Agenda Item: 10.1
Person Responsible: N. Pant

**XXXIV SCAR Delegates Meeting
Kuala Lumpur, Malaysia, 29-30 August 2016**

Summary of XII ISAES in India

Executive Summary

Title: Report on 12th International Symposium on Antarctic Earth Sciences

Authors: Naresh C. Pant, University of Delhi, India

Important Issues or Factors:

The ISAES 2015, the first Scientific Committee on Antarctic Research (SCAR) symposium in India, was held at Marriott Spa and Resort, Goa from 13-17th July 2015. ISAES symposium at Goa represents truly an international effort with participation from 27 countries of around 400 scientists nearly equally divided between the overseas and the Indian participants.

Recommendations/Actions and Justification:

The delegates are asked to read the short report on ISAES and thank India for their wonderful job of hosting the symposium.

Budget Implications:

none

Globally the scientific progress and state of the studies in earth sciences is reviewed in a gathering of all polar nations at an interval of four years in the form of International Symposium on Antarctic Earth Science (ISAES). A total of 11 such symposiums have been held since 1963 when the first ISAES was held at Cape Town, South Africa. In Asia there are several countries actively working in Antarctica including Japan, China, South Korea, Malaysia and India. However, ISAES was held in this large continent only once in Tokyo, Japan. Thus, organization of the 12th International Symposium on Antarctic Earth Science in Goa, India represented not only recognition of Indian scientific studies in Antarctica but also provided an unparalleled opportunity to Indian scientists to interact with the active researchers in relevant disciplines.

The ISAES 2015 (www.isaes2015goa.in - link no longer active), the first Scientific Committee on Antarctic Research (SCAR) symposium in India, was held at Mariott Spa and Resort, Goa from 13-17th July 2015. The five-day symposium was kick started by an Ice-breaker event on 12th July 2015. Recognizing the significance of the occasion, Dr. Harsh Vardhan, Honourable Minister of Science and for the Ministry of Earth Science (MOES) inaugurated the symposium on 12th July 2015. Dr. Shailesh Nayak, Secretary, MOES addressed the gathering with India's perspective on geosciences research. The R & D arm of the MOES, National Centre for Antarctic and Ocean Research, Goa hosted the symposium with Dr M Ravichandran, Director-NCAOR, welcoming the guests. SCAR President, Professor Jeronimo Lopez-Martinez besides several other office bearers of the organization actively participated in the symposium.

The morning session of each day of the symposium was devoted to two plenary talks of 45 minutes each followed by day-long oral presentations through three parallel sessions. The plenary speakers included Lonnie G. Thompson, Byrd Polar and Climate Research Center, OSU, USA, Paul Upchurch, University College London, London, Terry Wilson, OSU, USA, Martin Siegert, Imperial College, London, Ross Powell, USA, Ian Dalziel, UT at Austin, USA, Shailesh Nayak, MOES, India, SWA Naqvi, NIO, India, Jeronimo Lopez-Martinez, University of Madrid, Spain, Anil Kulkarni, IISc Bangalore, India and Chris Carson, Geoscience Australia, Australia. Dedicated poster session of one and a half hour for the first four days was part of the symposium.

A total of 32 sessions on each facet of polar earth sciences constituted the subject matter of the oral and poster presentations. The sessions titles such as Geochronology of Antarctic orogens, Exploring unknown Antarctica, Interactions between cryosphere, atmosphere and oceans in coastal Antarctica, Key drivers of Antarctic biodiversity through Cenozoic, Structure and evolution of the Antarctic continent in light of recent geophysical and geological investigations, The Rodinian orogeny in east Gondwana- implications for supercontinent evolution, Antarctic meteorites and micrometeorites, Past Antarctic ice-sheet behaviour and response to external forcing, The Himalayan Cryosphere- global versus regional climate forcing, Paleoclimate records from Antarctic drilling projects, Southern ocean paleoclimatology and lake sediment records of past changes in sea level and climate during the late Quaternary reflect the comprehensive nature of scientific deliberations during the course of the symposium.

ISAES symposium at Goa represents truly an international effort with participation from 27 countries of around 400 scientists nearly equally divided between the overseas and the Indian participants. The deliberations consolidated the status of scientific studies and provided guidance for future research. Of particular interest is the nature of sub-ice rocks as 98% of Antarctica is covered by ice with an average thickness of ~2000m and large areas of continent are not accessible to direct observation. This information is crucial to predict the behaviour of melting of ice. It is only one example of the significance of studies on Antarctic science. Both the atmosphere over Antarctica as well as the ocean surrounding this southern continent has strong influences on global weather patterns and ocean currents which directly affect the mankind.

The proceedings of the symposium will be published in several Special Publication of the Geological Society of London.