

**REPORT OF THE 7TH MALAYSIAN INTERNATIONAL SEMINAR ON
ANTARCTICA AND ITS ASSOCIATED EVENTS
15 – 17 AUGUST 2017, KUALA TERENGGANU**

INTRODUCTION

Malaysian International Seminar on Antarctica (MISA) is a series of biennial event which gathers researchers from Malaysia and other countries to share findings and experiences in polar research and also provide the platform for our scientists to strengthen existing and forge new collaborations. The 7th Malaysian International Seminar on Antarctica (MISA7) carries the theme of “Connectivity between Polar and Equatorial Climate and Biosphere: From the Poles to the Tropics”. This theme is in-line with the rational that the poles is an integral part of the global earth system, as the origin of important climatic, biological, and physical processes. The processes and changes in the polar regions will influence that in the tropics and similarly processes and changes in the tropics can also influence the polar regions. This teleconnection and connectivity issue will be more critical in the Anthropocene Era where climate change and anthropogenic activities have significant impact on the environment. A total number of 80 participants from Malaysia, India, Iran, Japan and Singapore attended the Seminar.

MISA7 was organized with the following objectives:

- 1) to share and discuss knowledge on science, technologies and policies of polar research, climate change and global sustainability;
- 2) to present the Antarctic research project findings under the MOSTI Flagship Program; and
- 3) to enhance collaboration and linkages with polar research experts.

Two workshops were also conducted during MISA7 on 17 August 2017 as follows:

- 1) Workshop on Policy: Implementation of Malaysia’s Obligations in the Antarctic Treaty System and Madrid Protocol; and
- 2) Polar Science Workshop: Charting New Strategies for Malaysian Polar Science Research Beyond 2017.

MISA7 OPENING CEREMONY

MISA7 co-organized by Ministry of Science, Technology and Innovation (MOSTI) through its agency Yayasan Penyelidikan Antartika Sultan Mizan (YPASM), State Government of Terengganu, Universiti Malaysia Terengganu (UMT) and National Antarctic Research Centre (NARC) was successfully held in Primula Beach Hotel, Kuala Terengganu, Terengganu from 15 – 16 August 2017. YPASM provided financial support of RM50,000 towards the organization of the seminar. The Seminar was officiated by His Royal Highness Al-Wathiqu Billah Sultan Mizan Zainal Abidin Ibni Almarhum Sultan Mahmud Al-Muktafi Billah Shah, Sultan of Terengganu and the Patron of YPASM.

Also present at the opening of the Seminar were YB Datuk Seri Panglima Wilfred Madius Tangau, Minister of Science, Technology and Innovation, YAB Datuk Seri Hj Ahmad Razif Abd Rahman, Menteri Besar of Terengganu, YB Datuk Hj Wan Nawawi bin Hj Wan Ismail, State Secretary of Terengganu, YB Datuk Mohd Zuber Embong, Yang Dipertua Dewan Undangan Negeri, Datuk Seri Dr Mohd Azhar Hj Yahaya, Secretary General of MOSTI, Tan Sri Dr Salleh Mohd Nor, Chairman Malaysian Antarctic Research Programme and Prof Dato' Dr Nor Aieni Hj Mokhtar, Vice Chancellor of UMT.

HRH Tuanku Mizan presented YPASM Research Grants to five (5) recipients. The recipients for 2017 YPASM Research Grant were as follows:

- 1) Prof. Dato' Dr. Azizan Abu Samah from National Antarctic Research Centre, Universiti Malaya and his project title is "A comprehensive investigation on the characteristics of near surface wind field and boundary layer in the Jang Bogo station, Terra Nova Bay, Antarctica, through observational and numerical simulation studies". This research project received funding amounting RM150,000;
- 2) Assoc Prof Dr. Justin Sentian from Faculty of Science and Natural Resources, Universiti Malaysia Sabah and his project title is "Modelling Approach in Simulating Stratosphere-Troposphere Exchange (STE) under Climate Change Scenarios: Occurrence and Characterisation of Tropopause and Tropospheric

Ozone Chemistry”. This research project received funding amounting RM150,000;

- 3) Prof. Dr. Raja Noor Zaliha Raja Abd Rahman from Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia and her project title is “Expression and structural characterization of fatty acid desaturase from Antarctic bacteria”. This research project received funding amounting RM100,000;
- 4) Dr. Rozida Mohd Khalid from Faculty of Science and Technology, Universiti Kebangsaan Malaysia and her project title is “Glaciozyma antarctica: Unlocking the Secrets of Secondary Metabolites Involved in Cold Adaptation”. This research project received funding amounting RM100,000; and
- 5) Prof. Madya Dr. Hajah Farida Zuraina Mohd Yusof from Faculty of Applied Sciences, Universiti Teknologi MARA and her project title is “Characterization of Mycosporine-like Amino Acids (MAAs), a Photoprotecting Compound against Ultraviolet B (UV-B) from Antarctic cyanobacteria”. This research project received funding amounting RM86,100;

HRH Tuanku Mizan also presented the YPASM Fellowship Scheme to one (1) recipient. The recipient for YPASM Fellowship Scheme 2017 was:

- 1) Dr. Faradina Merican Mohd Sidik Merican from School of Biological Sciences, Universiti Sains Malaysia and her project title is “An investigation of the effects of decadal scale environmental change on the diversity of terrestrial algae and other microflora on Signy Island, South Orkney Islands”. This research project received fellowship award amounting RM50,000.

HRH Tuanku Mizan also presented the prizes for the winners of the Sustainable Antarctica Competition 2017: Video Creative - Terengganu State Level. The prizes worth RM1,850 for the 1st, 2nd, 3rd Winners and Best School were sponsored by YPASM. YPASM also exhibit its Messages from Antarctica Exhibition involving 49 real-size Emperor Penguins and 10 infographic panels informing the public about the climate change impact globally and in-particular to Malaysia during the Seminar. YPASM together with professional documentary photographer and writer, Mahen Bala exhibit the “No Man’s Land Pre-Exhibition” during the Seminar in which the exhibition is a celebration of the sacrifice of early explorers, scientists, and visionaries who

contributed immensely to the collective ambition in safeguarding Antarctica. MISA7 received good media coverage thus contributes to the publicity for YPASM and public awareness on Antarctica. See **Appendix 1**.

SPEAKERS AND PRESENTATIONS

YB Datuk Seri Panglima Wilfred Madius Tangau, Minister of MOSTI delivered his keynote address entitled “Future and Challenges of Malaysian Polar Research” at the Seminar. In his keynote address, the Minister highlighted that MOSTI is now in the final stages of drafting the Antarctic Act which is one of the essential pre-requisite of applying to be admitted as a consultative party to the Antarctic Treaty System (ATS). Minister also mentioned that YPASM was also exploring to ink a Memorandum of Understanding with NARC to further bolster and coordinate our universities research activities in the polar regions. Three international speakers were invited to deliver plenary address as follows:

- 1) Prof Dr Sanjay Chaturvedi (Panjab University, India) with his title of presentation “Universalizing Moral Economy of the Anthropocene: Reimagining ‘Connectivity’ between the Poles and the Tropics”;
- 2) Prof Dr Steve Pointing (Yale-NUS College, Singapore) with his title of presentation “Antarctic Terrestrial Microbiology – Ecology, Connectivity and Threats”; and
- 3) Prof Dr Takashi Yamanouchi (National Institute of Polar Research, Japan) with his title of presentation “The Role of Polar and Lower Latitude Connection in Global Warming”.

A total of 44 oral papers divided in three main areas namely physical, biology and policy were presented at the seminar and 8 posters were also presented. During the MISA7 Closing Ceremony on 16 August 2017, a prize giving ceremony to the best oral and poster presenter was held. See **Appendix 2**.

WORKSHOP ON POLICY: IMPLEMENTATION OF MALAYSIA'S OBLIGATIONS IN THE ANTARCTIC TREATY SYSTEM AND MADRID PROTOCOL

Recognising the importance of understanding the environmental impact and biodiversity of Antarctica, Malaysian Government approved the setting up of Malaysian Antarctic research programme (MARP) in 1997. In October, 2011, Malaysia acceded to the Antarctic Treaty System (ATS), which provides the legal mechanism in ensuring freedom, promotion and development of international scientific investigations on the continent. In September, 2016, Malaysia had also ratified the Madrid Protocol or the Protocol on Environmental Protection to the Antarctic Treaty, thus become a member of the Committee on Environmental Protection (CEP).

The Madrid Protocol is the international agreement that establishes the framework for comprehensive protection of the Antarctic environment. The Protocol was opened for signature on 4 October 1991 and entered into force on 14 January 1998. As a Protocol to the Antarctic Treaty, the Madrid Protocol was intended to strengthen the Treaty as the governance framework for the Antarctic. The Protocol was designed around a core set of environmental principles, with a series of Annexes establishing more detailed rules and provisions.

Ratification of the Protocol commits the state parties including Malaysia to a comprehensive protection of the Antarctic environment and dependent and associated ecosystems. In order to implement our obligations under the 1959 Treaty and the 1998 Madrid Protocol, the Government of Malaysia under the leadership of MOSTI has drafted a national legislation in the form of an Antarctica Bill. The understanding on the ATS and Madrid Protocol as well as the obligations of its signatory must be made aware to those involved in the drafting and preparing the Bill. The process and procedures for the implementation of the Act is also of paramount importance.

In view of the above, this workshop was organised with the following objectives:

- 1) to learn from other CEP members on national obligations following Malaysia's accession to ATS and ratification to Madrid Protocol; and
- 2) to look into the permitting issues related to Malaysian scientific expedition to Antarctica.

Two experts from CEP member countries namely Australia and New Zealand were invited to share their countries experiences in the implementation of the country obligations under the ATS and Madrid Protocol. The experts were as follows:

- 1) Mr. Ewan McIvor (Chair & Senior Environmental Policy Adviser, Australian Antarctic Division) with his title of presentation “Australia’s Experience with Implementing the Antarctic Treaty and Madrid Protocol”; and
- 2) Dr Neil Gilbert (Former CEP Chair 2006 – 2010 & Antarctica New Zealand) with his title of presentation “Practical Implementation of the Environmental Protocol: The New Zealand Experience’.

Presentations and discussion held during the workshop provided opportunities for Malaysia to learn from others especially in the development of our Antarctica agenda including the development of our Antarctica Act and National Polar Roadmap and to achieve ATCP status. Apart from the seminar participants attended the workshop, representatives from relevant ministries and agencies namely MOSTI, Ministry of Natural Resources (NRE) and Attorney General Chambers (AGC) also participated in the workshop. The slide presentations from both experts as **Appendix 3**.

POLAR SCIENCE WORKSHOP: CHARTING NEW STRATEGIES FOR MALAYSIAN POLAR SCIENCE RESEARCH BEYOND 2017

Ever since the ‘Question of Antarctica’ in the United Nations general assembly in 1983, Malaysian polar research has entered its third decade of progress. Polar research is a challenging topic in Malaysia. This year, 2017, marks the completion of MOSTI Flagship Program for Antarctic research project. This workshop was organised to provide the platform for local researchers to chart the next milestones that aim to carry Malaysian polar research to fit into the bigger picture of global polar research. The workshop aims to:

- 1) to review and document project achievement;
- 2) to identify the next step forward for Malaysian Antarctica research team;
- 3) to foster relationship and networking among researchers; and
- 4) to explore sustainable funding for Malaysia polar program from government and private sector.

A total number of 80 participants from local research universities and institutes attended the workshop. Based on the outcome of the discussion and suggestions by the workshop participants, Prof Dato' Dr Azizan Abu Samah (Director, National Antarctic Research Centre) proposed to have another discussion to streamline the proposal to be submitted to the government and private sector.

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