

## Malaysia - National Report for 2007-08

### List of Researchers RMK9

Principal Researcher	Organization	Co-Researchers	External Collaborators	Contact Details
Prof. Dato' Dr Azizan Abu Samah	University of Malaya Department of Geography, Faculty of Arts and Social Sciences 50603 Kuala Lumpur Tel: 03-7967 5500 Fax: 03-7956 3454		Dr. J. Turner, British Antarctic Survey  Prof. Dr. David Bromwich, Polar Meteorological Group, BPRC.	<a href="mailto:azizans@um.edu.my">azizans@um.edu.my</a>
Prof Dato' Ir Dr Chuah Hein Teik	MultiMedia University Faculty of Engineering Jalan Multimedia 63100 Cyberjaya Selangor Tel: 03 - 8312 5256 Fax: 03 - 8318 3029  MultiMedia University Faculty of Information Technology Jalan Multimedia 63100 Cyberjaya Selangor Tel: 03 - 8312 5430 Fax: 03 - 8312 5264	Assoc. Prof. Dr. Ewe Hong Tat, MMU Dr Lim Wee Keong, MMU Malaysian Center for Remote Sensing: for participation in field measurement and satellite data acquisition.	Antarctica New Zealand: for logistics support and field measurement coaching  Dr. Tim Haskell of Industrial Research Limited, New Zealand: for useful discussion and logistic support for field measurement in Cape Evans.  Dr. Pat Langhorne, Otago University, New Zealand: for useful discussion and sharing of sea ice physical microstructure Prof. Richard Klette, University of Auckland, New Zealand: for useful discussion and collaboration on sea ice classification on SAR images  Prof. Stephen Ackley, Clarkson University, USA : collaboration on IPY	<a href="mailto:htewe@mmu.edu.my">htewe@mmu.edu.my</a> <a href="mailto:htchuah@mmu.edu.my">htchuah@mmu.edu.my</a> <a href="mailto:wklim@mmu.edu.my">wklim@mmu.edu.my</a>
Prof. Dr Phang Siew Moi	University of Malaya Institute of Biological Sciences	Assoc. Prof. Dr. Chu Wan Loy, IMU Prof. Dr. Rofina Yasmin, UM	Australian Antarctic Division Prof. Andrew McMinn – University of Tasmania,	<a href="mailto:phang@um.edu.my">phang@um.edu.my</a> <a href="mailto:wanloy_chu@imu.edu.my">wanloy_chu@imu.edu.my</a> <a href="mailto:y.kimyong@must.edu.my">y.kimyong@must.edu.my</a>

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	<p>Faculty of Science 50603 Kuala Lumpur Tel: 03-7967 4200 Fax: 03-7956 6343</p> <p>International Medical University 2nd Floor, Graha Sesama-Plaza Komanwel Bukit Jalil 57000 Kuala Lumpur Tel: 03-8656 2007 Fax: 03-8656 6229</p>	<p>Dr. Ng Kim Yong, MUST Dr. Ho Chai Ling, UPM</p>	<p>Australia</p> <p>Prof. John Beardall – Monash University, Australia</p> <p>Prof. Christian Wiencke – AWI, Germany</p> <p>Dr. Kai Bischof – University of Kiel, Germany</p> <p>Prof. Don Cowan – University of the Western Cape, South Africa South African National Antarctic Program (SANAP)</p> <p>Assoc. Prof. Dr. Hideaki Miyashita- Kyoto University</p>	<p><a href="mailto:yasmin@um.edu.my">yasmin@um.edu.my</a></p>
Prof. Dr Zulfigar Yassin	<p>Universiti Sains Malaysia CENTER FOR MARINE AND COASTAL STUDIES, 11800 UNIVERSITI SAINS MALAYSIA PENANG MALAYSIA TEL : 04-6533888 EX: 2195 FAX: 04-6592670</p>	<p>Dr. Aileen Tan Shau Hwai Ms. Sazlina Md. Salleh Mr. Mahadi Mohamed Mr. Sim Yee Kwang Mr. Izwandy Idris</p>	<p>Institute of Antarctic and Southern Ocean Studies (IASOS)</p> <p>University of Tasmania (to assist with the analysis)</p> <p>Australian Antarctic Division (AAD) (to assist with the analysis and providing berths to Antarctica)</p> <p>Korea Ocean Research and Development Institute (KORDI) (to assist with the analysis)</p>	<p><a href="mailto:aileenusm@yahoo.com">aileenusm@yahoo.com</a> <a href="mailto:zulfigar@usm.my">zulfigar@usm.my</a> <a href="mailto:sazlinasalleh@gmail.com">sazlinasalleh@gmail.com</a> <a href="mailto:mahadi.mohd@gmail.com">mahadi.mohd@gmail.com</a> <a href="mailto:m">m</a></p>
Prof. Dr Mashor Mansor	<p>Universiti Sains Malaysia School of Biological Sciences 11800 Penang Fax: 04-6565 125</p>	<p>Dr. Wan Maznah Wan Omar (Programme Head), USM Dr. Latiffah Zakaria, USM Assoc. Prof. Dr. Ahmad Sofiman Othman, USM Dr. Nurul Salmi Abdul Latip, USM</p>	<p>Australian Antarctic Division (expedition on Voyage 5, 4<sup>th</sup> January – 13<sup>th</sup> February 2004);</p> <p>Instituto Antartico Argentino (expedition on Almarente</p>	<p><a href="mailto:mashhor@usm.my">mashhor@usm.my</a> <a href="mailto:lfah@usm.my">lfah@usm.my</a> <a href="mailto:wmaznah@usm.my">wmaznah@usm.my</a></p>

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			<p>Irzar, 8<sup>th</sup> March – 8<sup>th</sup> April 2003)</p> <p>Institute of Biological Sciences, University of Malaya (Prof. Phang Siew Moi: algal expert)</p> <p>Shimane University, Japan (Assoc. Prof. Dr Shuji Ohtani: algal expert)</p> <p>School of Biosphere Sciences, Hiroshima University, Japan (Assoc. Prof. Dr. Takeshi Naganuma: IPY MERGE)</p>	
Dr Norbahiah Misran	<p>Universiti Kebangsaan Malaysia Faculty of Engineering Universiti Kebangsaan Malaysia 43600 Bangi Tel: 03-8921 6106/ 6100 Fax: 03-8925 2546</p>	<p>Prof. Datuk Dr. Baharudin Yatim, Institut Sains Angkasa, UKM Prof. Dr. Mohd Alauddin Mohd Ali, UKM Ir. Dr. Mardina Abdullah, UKM</p>	<p>Antarctica New Zealand (ANZ)</p> <p>University of Canterbury New Zealand -Ionosonde Data and Polarimetric Data at Scott Base</p> <p>National Institute of Water and Atmospheric Research (NIWA), New Zealand – Surface Meteorological Data at Scott Base</p> <p>Space Environment Research Center, Kyushu University, Japan –MAGDAS</p> <p>University of Stanford, USA –AWESOME (Atmospheric Weather Electromagnetic System for Observation Modeling and Education) monitor using VLF (Very Low Frequency) receiver</p>	<p><a href="mailto:bahiah@vlsi.eng.ukm.my">bahiah@vlsi.eng.ukm.my</a></p>

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			University of Texas, Coherent Ionospheric Doppler Receiver (CIDR)- future	
Prof. Dr Irene Tan	Institute of Biological Sciences, Faculty of Science, University of Malaya, 50603 Kuala Lumpur Tel: 03-7967 6792 Fax: 03-7967 4178	Dr. Geok-Yuan Annie Tan, UM Prof. Dr. Richard Wong Chee Seng, UM Assoc. Prof. Dr. Misni Misran, UM	Prof. Andrew McMinn, University of Tasmania  Prof. John Beardall, Monash University, Australia  Assoc. Prof. Dr. Hideaki Miyashita, Kyoto University Prof. Don Cowan, University of the Western Cape, South Africa  Prof. Christian Wiencke, Alfred Wegener Institute (AWI), Germany  Dr. Isabelle Ansorge (University of Cape Town, South Africa)	<a href="mailto:itan@um.edu.my">itan@um.edu.my</a> <a href="mailto:gyatan@um.edu.my">gyatan@um.edu.my</a> <a href="mailto:ikptan@gmail.com">ikptan@gmail.com</a>
Prof Madya Dr Siti Aishah Alias	University of Malaya Institute of Biological Sciences 50603 Kuala Lumpur Malaysia Tel : 03 – 7967 4610 Fax : 03-79674699	Dr. Ng Ching Ching, UM Dr. Mohammad Rizman Idid, UM	Jerzy Smykla Department of Biodiversity Institute of Nature Conservation Polish Academy of Sciences Mickiewiczza  Maria de Lordes Guerra Cabezas Blvd. 9 de Octubre 416 y Chile Edificio Citibank, cuarto piso. Oficina 402 P.O. Box 09-01-7658 Guayaquil, Ecuador  Prof. Dr. Gerardo González-Rocha Microbiology Laboratory	<a href="mailto:siti_aisyah_2000@yahoo.com">siti_aisyah_2000@yahoo.com</a> <a href="mailto:rizman@um.edu.my">rizman@um.edu.my</a>

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			Faculty of Biology Universidad De Concepcion	
Prof. Madya Dr Nazalan Najmuddin	Universiti Sains Malaysia School of Biological Sciences 11800 Penang Fax: 04-6565 125	Dr. Rashidah Abdul Rahim, USM Dr. Mohd Razip Samian, USM Dr. Munir Murad, UKM	University of Tasmania  Australian Antarctic Division	<a href="mailto:nazalan@usm.my">nazalan@usm.my</a> <a href="mailto:razip3619@gmail.com">razip3619@gmail.com</a> <a href="mailto:rshidah@usm.my">rshidah@usm.my</a>
Dr Hii Yii Siang	Univesiti Trengganu Malaysia Faculty of Science and Technology Mengabang Telipot 21300 Terengganu Tel: 609-6683 155/ 3156 Fax: 609-6694 660	Assoc. Prof. Dr. Mohamad Pauzi Zakaria, UPM		<a href="mailto:hii@kustem.edu.my">hii@kustem.edu.my</a>
Assoc Prof Dr Che Abd Rahim Mohamed	Universiti Kebangsaan Malaysia School of Environmental & Natural Resources Sciences, Faculty of Science & Technology 43600 Bangi, Selangor, Tel: +603-89213209; 013-3597635 Fax: +603-89253357  Malaysian Institute For Nuclear Technology Research 43000 Kajang, Malaysia	Dr. Zaharuddin Ahmad	Dr. Ing. Hans Oerter Stiftung Alfred-Wegner Institut fuer Polar-und Meeresforschung (AWI) Postfach 120161 D-27505 Bremerhaven Germany Tel: 49 471 4831 1347 Fax: 49 471 4831 1347  Dr. Thamban Meloth National Centre for Antarctic & Ocean Research, Headland Sada, Vasco-da-Gama, Goa, India. Ph: 91- 832- 2520863 Fax: 91- 832- 2520877	<a href="mailto:mohamed6566@yahoo.com">mohamed6566@yahoo.com</a> <a href="mailto:carmohd@pkrisc.cc.ukm.my">carmohd@pkrisc.cc.ukm.my</a> <a href="mailto:zahar@mint.gov.my">zahar@mint.gov.my</a> <a href="mailto:hoerter@awi-bremerhaven.de">hoerter@awi-bremerhaven.de</a>

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<p>Prof Madya Dr Baba Musta</p>	<p>Universiti Malaysia Sabah School of Science and Technology, Locked Bag 2073 88999 Kota Kinabalu Sabah Tel: 088-320 991 Fax: 088-320 993</p>	<p>Prof. Dr. Sanudin Hj. Tahir, UKM</p>	<p>National Centre for Antarctic and Ocean Research</p>	<p><a href="mailto:babamus@ums.edu.my">babamus@ums.edu.my</a></p>
<p>Prof Madya Dr Azhar Husin</p>	<p>University of Malaya Department of Geology, 50603 Kuala Lumpur Malaysia Tel: 03-79674029 Fax: 03-79675149</p>		<p>South African National Antarctic Program (SANAP)- Logistic support- ship, base camps,  South African National Research Foundation- collaborating Scientists  South African Weather Services- meteorological data  Alfred Wegener Institute for Polar and Marine Research- Logistics and database for</p>	<p><a href="mailto:azharhh@um.edu.my">azharhh@um.edu.my</a></p>

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			Oceanographic research.	
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Mr Mahadi Mohamad	<p>USM- University of Tasmania</p> <p>CENTER FOR MARINE AND COASTAL STUDIES, 11800 UNIVERSITI SAINS MALAYSIA PENANG MALAYSIA TEL : 04-6533888 EX: 2195 FAX: 04-6592670</p>	<p>DR. AILEEN TAN SHAU HWAI PROF. ZULFIGAR YASIN</p>	<p>University of Tasmania (UTAS), Australia - to assist with sampling and analyses</p> <p>University of Santiago, Chile - to assist with sampling and analyses</p> <p>Australian Antarctic Division (AAD)- to organize and provide berths to the Antarctica and the permits for the samples collection</p>	<p><a href="mailto:mahadi.mohd@gmail.com">mahadi.mohd@gmail.com</a> <a href="mailto:aileenusm@yahoo.com">aileenusm@yahoo.com</a> <a href="mailto:zulfigar@usm.my">zulfigar@usm.my</a></p>
Dr Mohd Yunus Shukor	<p>Universiti Putra Malaysia Dept. of Biochemistry Faculty of Biotechnology and Biomolecular Sciences Universiti Putra Malaysia 43400 UPM Serdang Selangor, Malaysia. 603-8946 6722 (room) 603-8943 0913 (fax)</p>	<p>PROF DR. MOHD. ARIF SYED, UPM DR. SHUHAIMI MUSTAFA, UPM DR. MOHD. AZMUDDIN ABDULLAH, UTP</p>		<p><a href="mailto:yunus@biotech.upm.edu.my">yunus@biotech.upm.edu.my</a></p>

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List of Research Projects in RMK9 (17)

<b>Principle Investigator</b>	<b>Research Project Title</b>
Prof Dr Phang Siew Moi, UM	Adaptive Mechanisms of Antarctic, Tropical and Temperate Microalgae to UVR and Temperature stress
Assoc Prof Dr Nazalan Najimudin, USM	Nitrogen cycling in Antarctic ecosystems: ecology, physiology and biodiversity
Assoc Prof Dr Irene Tan Kit Ping, UM	Diversity and metabolic abilities of polar bacteria in ecologically-distinct environments
Assoc Prof Dr Siti Aisah Alias, UM	Biodiversity, adaptation and chemical characterization of Antarctic Fungi
Dr Mohd Yunus Shukor, UPM	Bioremediation of xenobiotics using Antarctic microbes
Dr Michael Wong Vui Lin, UMS	Studies on Psychrophiles from Antarctica and Arctic with special reference to their anti-microbial and enzyme activities
Mahadi Mohammad, USM	Effects of Isolation on the Genetic Biodiversity of Shallow Coastal Benthic Communities in Antarctica
Sazlina Md Salleh, USM	Effects of Cultural Eutrophication on the Benthic Primary Production of Tropical, Temperate and Polar Ecosystems
Prof Dr Masshor Mansor, USM	Human Impact on the Evolution and Diversity of Antarctic Flora with Special Reference to Invasive Species
Prof Dr Zulfigar Yasin, USM	The Biodiversity of the Benthic Invertebrates Faunas from the Antarctic Marine Ecosystem
Prof Dato' Dr Azizan Abu Samah, UM	Modeling and Observational Studies of Antarctic Katabatic (MOSAK)
Prof Chuah Hean Teik	Polar Ice Monitoring and Parameter Retrieval with Microwave Remote Sensing
Dr Baba Musta, UMS	Geochemical Study of Rock Weathering in Polar Region
Dr Hii Yii Siang, KUSTEM	Profiling hydrocarbons deposition, vertical transport and Mobilization in Antarctica
Assoc Prof Dr Che Abd Rahim Mohamed, UKM	Radiochemical and chemical changing in glaciers and sediments at Polar Regions: Implications for the past and present global oceanography cycles
Assoc Prof Dr Azhar Husin, UM	1. Geological and Geophysical Investigations in Antarctica 2. Geological and Biological indicators of sea level and climate change in the Antarctic and the sub-Antarctic Regions
Dr Norbahiah Misran, UKM ( <i>continuing as Lead Researcher for project formerly led by Late Assoc Prof Dr Zainol Abidin</i> )	Polar-Equatorial-Polar Geospace Ionospheric, Magnetic Storms, and Water Vapour Characterization for the Advancement of Space Weather Prediction – A Malaysian Participation in ICESTAR Programme



## **MALAYSIAN ANTARCTIC RESEARCH PROGRAM 2007**

In the year 2007, Malaysian Antarctic Research Program (MARP) has strengthened its research program by continuing all existing research projects. All research projects were vetted by local and international vetting committees before being accepted into MARP. On the whole, there are 10 biological sciences research projects undertaken under MARP in 2007, and 7 in physical sciences. MARP has also increased its capacity in the area of human resource. 2 of MARP's PhD candidates were graduated and 2 have started their PhD in 2007. Currently, 8 PhD candidates are working on various fields of scientific research on Antarctica. There are also 29 M.Sc. candidates and 11 undergraduates under the MARP research program.

Throughout summer season 2007/2008, 17 researchers have participated in the Antarctic and Arctic expeditions as part of their research projects to collect samples and data as well as to undertake groundtruthing. Five of the researchers went with the Antarctica New Zealand (ANZ), two with the British Antarctic Survey (BAS), five with the Institute of National Antarctic Research of Ecuador (INAE), two with the South African National Antarctic Program (SANAP), one with the University of Hokkaido, Japan and two with the Institute of National Antarctic Research of Chile (INACH). A Memorandum of Understanding signed between the Academy of Sciences Malaysia for MARP and National Institute of Polar Research, Japan and Chilean Antarctic Institute (INACH) during the 3<sup>rd</sup> Malaysian International Seminar on Antarctica (MISA3).

Among the major outcomes of the research projects include the achievement of Malaysian scientists better known in the international scientific community, increased Malaysian involvement in international Earth System Research efforts (e.g. IPY) especially numerical modeling. Research efforts also increased Malaysian scientific contributions on global issues such as Climate Change and Environmental Conservation and indirectly strengthen our stake in promoting Antarctica as a common heritage for all mankind in UN and other international forum.

In March 2007, MARP and University Malaysia Sabah jointly organized 3<sup>rd</sup> Malaysian International Seminar on Antarctica. The seminar was the third International seminar being organized by MARP. Participants including from Australia, Britain, USA, Belgium, Japan, China and France attended the seminar held in Kota Kinabalu, Sabah. Other than paper presentations and discussion on many aspects of the Antarctic Science were held

during the seminar. It summarized our current understanding and considered the gaps in our knowledge at the international level.

The International Symposium on Asian Collaboration in IPY 2007-2008, March 2007 was organized by the National Institute on Polar Research (NIPR), Japan in Tokyo March 2007. Four papers presented by MARP researchers on biological and atmospheric research were well received. Participation in this Symposium has been immensely beneficial to MARP as our researchers have established contacts with few key persons in NIPR.

NIPR also organized 31<sup>st</sup> Symposium on Space and Upper Atmospheric Sciences in the Polar Region, Tokyo, Japan, July 2007. The organizer invited and sponsored En Sumazly Sulaiman, MARP researcher from Universiti Trengganu Malaysia to deliver 2 papers on Atmospheric Science Research.

Prof Dato' Dr Azizan Abu Samah and the secretariat represented MARP at the XXX Antarctic Treaty Consultative Meeting (ATCM) in Delhi, April 2007. During this meeting, the representative from Ministry of Foreign Affairs delivered a Malaysian stand on Antarctic Treaty System and indicated that Malaysia is looking forward to enter the Antarctic Treaty System and preparing to do so in near future. The Antarctic Treaty Consultative Parties (ATCP) has invited Malaysia to observe the next ATCM in Kiev, April 2008.

Two of MARP researchers were invited to present papers at the International Conference on Cryogenic Resources of Polar Region Salekhard City, Polar Circle which was held in West Siberia, Russia on 17 – 21 June, 2007. Prof. Dr. Phang Siew Moi and Assoc. Prof. Dr Chu Wan Loy presented their papers and were able to establish network with researchers in Alfred Wegner Institute from Germany during the conference.

The Manager of Antarctic Data Center attended a meeting and capacity building workshop of SCAR-COMNAP Joint Committee on Antarctic Data Management (JCADM) in September 2007 which was held in Rome, Italy. During this workshop, training on accessing the Antarctic Master Directory and its new functions and facilities has helps MARP to share research data with other established traditional polar countries.

The Latin-American Symposium on Antarctic Research was held in Ecuador in November 2007, organized by the Institute of Antarctic Research of Ecuador (INAE). Two of MARP's researchers attended the symposium and presented their research findings. During the symposium, a workshop was held to discuss about the collaboration between

Malaysian, Ecuadorian and Chilean scientists in Antarctic research. The workshop was very fruitful as Malaysian and Chilean scientists have established collaborations in Antarctic research and Institute of Antarctic Research of Chile (INACH) has offered to host two MARP researchers on their Antarctic expedition in 2007/2008. The Ecuadorian also offered 5 places for Malaysian researchers on their summer season expedition in January 2008

Dr Agus Suparta and Dr Irsan Brodjonegoro from Bandung Institute of Technology visited the MARP Center in UM June 2007. Their visits to the MARP Center were to discuss with Prof Dato' Azizan about establishing Indonesian Antarctic Research Program.

MARP also hosted the Asian Forum on Polar Sciences Delegates Meeting in September 2007. 13 delegates from Japan, China and Korea attended the meeting while three observers from Thailand and Indonesia were also invited. The delegates meeting

Members of MARP also involved in activities designed to communicate and promote Antarctic research as well as increase MARP's profile in the eye of the general public. In March, an outreach program involving children from kindergarten, primary and secondary school and undergraduates from Universiti Malaysia Sabah was held in conjunction with the MISA3. MARP's researchers involved in motivational talks to students and teachers at primary, secondary and matriculation level. The talks were held in Petrosains, National Science Center and some schools in Penang.

Overall, MARP has forged the way to bring Malaysia's research to world-class level as well as promote national and international cooperation to increase the nation's scientific capability and capacity. The support of ASM and the various ministries in the Government is vital in order for MARP to maintain its momentum to secure Malaysia's place in the international scientific community as well as the ATS.

**1. Project Title: Biodiversity, adaptation and chemical characterization of Antarctic Fungi**

Principle Investigator: Assoc Prof Dr Siti Aisah Alias

Expedition:

16th Dec 2002 - 25th Jan 2003  
Australian Antarctic V5 to Casey Station

2nd February - 16th February 2003  
Former Prime Minister Group Expedition to Peninsular Antarctic

11th February - 28th February 2004  
Australian Antarctic V7 to Casey Station, Antarctica

January 2007- March 2007  
King George Island, Antarctica Peninsula  
Chile Institute of Antarctic Research (INACH)

December 2006 - February 2007  
Peninsular Antarctica  
Ecuador Institue of Antarcti Research (INAE)

28th March - 17th May 2007  
Marion Island, South Indian Ocean (Sub-Antarctica)  
South African National Antarctic Programme (SANAP)

January - February 2008  
Peninsular Antarctica  
Ecuador Institue of Antarcti Research (INAE)

**2. Project Title: Adaptive Mechanisms of Antarctic, Tropical and Temperate Microalgae to UVR and Temperature stress**

Principle Investigator: Prof Dr Phang Siew Moi

Expedition:

30th December 2000 - 8th February, 2001

Casey Station

Australian Antarctic Division

17th December 2002 - 8th January 2003

Casey Station

Australian Antarctic Division

December 2005

Casey Station

Australian Antarctic Division

17th February 2004 - 12th March 2004

Casey Station

Australian Antarctic Division

27th March - 16th May 2005

Marion Island

South African National Antarctic Programme (SANAP)

September 2006 - April 2007

Australian Antarctic Program

28th March - 17th May 2007

Marion Island, South Indian Ocean (Sub-Antarctica)

South African National Antarctic Programme (SANAP)

**3. Project Title: Polar Ice Monitoring and Parameter Retrieval with Microwave Remote Sensing**

Principle Investigator: Prof Chuah Hean Teik

Expedition:

18th October - 25th October 2001  
5th November - 15th November 2002  
25th October - 03rd November 2003  
18th October - 25th October 2004  
22nd October - 4th November 2005  
10th October - 27th November 2006  
19th October - 26th October 2007

Scott Base, Antarctica New Zealand

**4. Project Title: Diversity and metabolic abilities of polar bacteria in ecologically-distinct environments**

Principle Investigator: Assoc Prof Dr Irene Tan Kit Ping

Expedition:

17th December 2002 - 8th January 2003  
Casey Station  
Australian Antarctic Division

10th December 2004 - March 2005  
MAITRI  
Indian Antarctic Expedition

December 2005  
Casey Station  
Australian Antarctic Division

November 2005 - January 2006  
Antarctic Expedition (Signy Island)  
British Antarctic Survey

26th November 2006 - March 2007  
Antarctic Expedition (Signy Island)  
British Antarctic Survey

**5. Project Title: Studies on Psychrophiles from Antarctica and Arctic with special reference to their anti-microbial and enzyme activities**

Principle Investigator: Dr Michael Wong Vui Lin

Expedition:

10th December 2004 - March 2005

MAITRI

Indian Antarctic Expedition

December 2007- February 2008

King George Island, Antarctica Peninsula

Chile Institute of Antarctic Research (INACH)

**6. Project Title: Effects of Isolation on the Genetic Biodiversity of Shallow Coastal Benthic Communities in Antarctica**

Principle Investigator: Mahadi Mohammad

**7. Project Title: Effects of Cultural Eutrophication on the Benthic Primary Production of Tropical, Temperate and Polar Ecosystems**

Principle Investigator: Sazlina Md Salleh

**8. Project Title: Human Impact on the Evolution and Diversity of Antarctic Flora with Special Reference to Invasive Species**

Principle Investigator: Prof Dr Masshor Mansor

**9. Project Title: The Biodiversity of the Benthic Invertebrates Faunas from the Antarctic Marine Ecosystem**

Principle Investigator: Prof Dr Zulfigar Yasin

Expedition:

Dr Rashidah abd Rahim, Dr Latifah Zakaria, Farida Merican

04 January, 2004 - 13 February, 2004

Base: Casey Station

Host: Australian Antarctic Division

Dr Zulfigar Yasin, Dr Wan Maznah Wan Omar, Mahadi Mohamad, Sazlina Md Salleh

03 January, 2003 - 17 March, 2003

Base: Casey Station

Host: Australian Antarctic Division

Masdialily Dahalan

Dec 2006 - Feb 2007

Peninsular Antarctica

Ecuador Institute of Antarctic Research (INAE)



**10. Project Title: Polar-Equatorial-Polar Geospace Ionospheric, Magnetic Storms, and Water Vapour Characterization for the Advancement of Space Weather Prediction - A Malaysian Participation in ICESTAR Programme**

Principle Investigator: Dr Zainul Abidin, Dr Norbahiah Misran (*continuing as Lead Researcher for project formerly led by Late Assoc Prof Dr Zainol Abidin*)

Expedition:

24th October, 2002 - 30th October, 2002  
11th December, 2004 - 24th December, 2004  
December 2005

Scott Base, Antarctica New Zealand

**11. Project Title: Modeling and Observational Studies of Antarctic Katabatic (MOSAK)**

Principle Investigator: Prof Dato' Dr Azizan Abu Samah

Expedition:

2nd February - 16th February 2003  
Former Prime Minister Group Expedition to Peninsular Antarctic

25th January 2005 - 10th February 2005  
28th January 2006 - 3rd Feb 2006  
28th January 2007- 3rd Feb 2007

Scott Base, Antarctica New Zealand

**12. Project Title: Geological and Geophysical Investigations in Antarctica/ Geological and Biological indicators of sea level and climate change in the Antarctic and the sub-Antarctic Regions**

Principle Investigator: Assoc Prof Dr Azhar Husin

Expedition:

January - February 2008  
Peninsular Antarctica  
Ecuador Institue of Antarcti Research (INAE)