Asia-Pacific Network for Global Change Research

SOLAS Science 2004: Travel funds for young scientists

Final report for APN project 2004-08-NSY-Uematsu

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2004-08-NSY-Uematsu
Final Report submitted to APN

OVERVIEW OF PROJECT WORK AND OUTCOMES

Non-technical summary

SOLAS aims to coordinate, prioritise and set the agenda for the next decade of research into interactions between the ocean and atmosphere, by creating international and national networks of scientists working on SOLAS topics.

SOLAS Science 2004 was the first international conference to present the results of the project. It was held in Halifax, Nova Scotia, Canada from 13 to 16 October 2004. 222 participants from 24 countries attended the event. The aim of the conference was to provide an opportunity for building multi/inter disciplinary linkages and broadening participation in SOLAS, by encouraging an enhanced level of cooperation in planning and execution of research among many different disciplines in the environmental sciences.

We were aiming to support the best quality, young or early career scientists from the APN region who could not otherwise attend the SOLAS Science conference 2004, with an emphasis on scientists from developing countries and regions where SOLAS networks are not well developed. The APN travel fund enabled 8 young researchers to attend the conference for the mutual exchange of research and ideas within the international SOLAS community.

Objectives

The main objectives of the project were:

1. The identification of SOLAS scientists in the APN region who were not already part of a national SOLAS network, and also potential SOLAS national representatives in countries where they are needed.
2. To foster collaboration by providing the opportunity for young scientists from the Asia-Pacific region to attend SOLAS Science 2004.
3. For the young scientists to see how their work fits into the broader framework of global change science, and to further their careers through international collaboration.

Amount received and number years supported

2004-2005: USD $20,000

Activity undertaken

Using our mailing lists and networks, we sent a out a call for applications for support to attend the SOLAS Conference. The young scientists considered for the travel fund were required to be below 40 years old (with preference given to those within 5 years of receiving their doctorate) and working on a topic of study within the scope of the SOLAS Science Plan and Implementation Strategy. The applications were assessed on the basis of a CV and a 300-word abstract of the research to be presented. They were reviewed by at least 2 out of the 10 members of a selection committee with a wide geographical spread. The applications were marked and then returned to the SOLAS International Project Office.

The highest scoring candidates were contacted and informed of their funding. They were asked to book their flights and travel, and were reimbursed after the conference. In some cases where the young scientist was unable to pay upfront for the flight payment, we paid

for their travel directly through the office. Accommodation was booked for all the participants in advance. Upon arrival at the conference, the supported scientists were provided with a welcome pack and per diem cash advance if they had so requested.

SOLAS Science 2004 ran over four days from the 13 – 16th October at the Westin Nova Scotia Hotel, Halifax, Canada. 222 people attended the event, including the young scientists supported by the APN. We also supported other young scientists with grants from IAI, SCOR and NERC.

19 speakers from 10 different countries gave plenary talks covering the broad range of multidisciplinary science spanned by the domain of SOLAS. The majority of each day involved sizable poster sessions that provided a forum for international junior and senior scientists, including the APN supported young scientists, to present their research to the community. Discussion sessions on current SOLAS topics, centred on major areas of uncertainty in SOLAS science, took place in the afternoons of each day, to which all were invited. In addition to the structured activities of the conference, regular coffee and lunch breaks provided an invaluable opportunity for informal networking and conversation between international junior and senior scientists, scientific project officers and funding bodies.

Results

Over 40 high quality applications for the APN travel fund were received. Eventually we were able to provide 8 of the young scientists with full support, including travel, accommodation and subsistence, to attend the conference. This included two scientists from regions where there are no SOLAS networks or contacts - Thailand and Bangladesh.

The supported young scientists were able to present their work to the SOLAS community and learn from other cutting edge SOLAS science that was being presented.

Relevance to APN scientific research framework and objectives

Changes in Atmospheric Composition. SOLAS deals with changing concentrations of trace gases (e.g. Halogens, DMS, N_2O, CH_4) as well as changes in CO_2 concentrations resulting from transformation in the surface ocean. SOLAS also addresses changing composition of sea salt, sea spray and the resultant aerosols.

Changes in Coastal Zones. Several of the key issues for SOLAS are focused on the coastal region e.g. sea spray production, carbon transformation in the surface layer resulting form global change and the production of N_2O and CH_4

Climate Change and Variability. Nearly all of SOLAS is of relevance here, e.g. Focus 1, which includes an activity on DMS and climate; iron and marine productivity and the climate sensitive feedbacks of production of other trace gases and particles. Improved understanding of the transfer of mass, heat, momentum and H_2O (Focus 2) is also a critical for skilful predictions of future climate. Focus 3, which is concerned with the air-sea flux of CO_2 and other long-lived radiatively active gases, including the processes involved and the resultant variability, is clearly relevant here.

Self Evaluation

All of the 3 main objectives for running the project (see above) were fulfilled successfully. SOLAS scientists within the APN region were identified, and we have received positive feedback from the supported young scientists relating to the well-structured platform provided for learning, discussing and sharing SOLAS science with the international community.

The young scientists reported that the conference provided the following benefits:

- Expanded their background knowledge and generated new ideas in their studies.
- Evolved sound partnerships and contact networks.
- Filled the gaps between their own and other's research.
- Allowed comparison of research methodologies and ideas.
- Exposed them to new results and field 'hotspots'.
- Provided information that was sent on around Thailand, which got positive feedback about several research topics that are now being promoted in this country.

Potential for further work

Further SOLAS Science conferences are planned to take place on a biennial basis. The next conference will be held in Xiamen, China, March 6-9 2007.

Every other year SOLAS holds an international summer school specifically designed for education and capacity building within the international SOLAS community. Attendance from students from the APN region will be encouraged. At the 2005 school, we have received approximately 50 applications from Asia-Pacific young scientists.

In addition, a workshop entitled "Implementing SOLAS in Asia" is running in June this year that aims to develop plans for SOLAS fieldwork in the Pacific basin.

Publications

The SOLAS Science conference produced a handbook that included the conference programme, poster presentation titles, and plenary talk abstracts. The handbook also contained a CD-ROM of abstracts from all the conference poster presentations.

The science highlights, and reports from the discussion sessions from the conference were published in the first edition of SOLAS News, in January 2005.

See the appendix for these publications.

Acknowledgments

We thank START for managing the APN funds and the SCOR office for holding and managing the travel fund. The SOLAS International Project Office is also acknowledged for managing the selection and review process, and the supported young scientists on their needs at the conference. We thank the scientists who committed their valuable time to reviewing the applications.

TECHNICAL REPORT

Preface

SOLAS is an international research initiative investigating biogeochemical and physical interactions between the atmosphere and the ocean. In October 2004, the first SOLAS Science conference was held to present the initial results of the programme. APN provided a travel fund of $20,000 to support young scientists from Asia-Pacific developing countries working in the SOLAS domain who would not otherwise be able to attend the conference. The travel fund successfully supported eight scientists who gained knowledge, networking contacts and capacity for furthering SOLAS science within their countries.

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1.0 - Introduction

SOLAS is an international research initiative that has as its goal:

"To achieve quantitative understanding of the key biogeochemical-physical interactions and feedbacks between the ocean and the atmosphere, and how this coupled system affects and is affected by climate and environmental change".

The scope of the study, as illustrated in Figure 1, and is described in detail in the Science Plan and Implementation Strategy (available at www.solas-int.org). The Science Plan is largely based on the results of the International SOLAS Open Science Meeting held in Damp, near Kiel, Germany in February 2000 which involved more than 250 scientists from 22 different countries, of which 8 were from the APN region (Australia, New Zealand, China, Japan, Korea, Russia, USA and India).

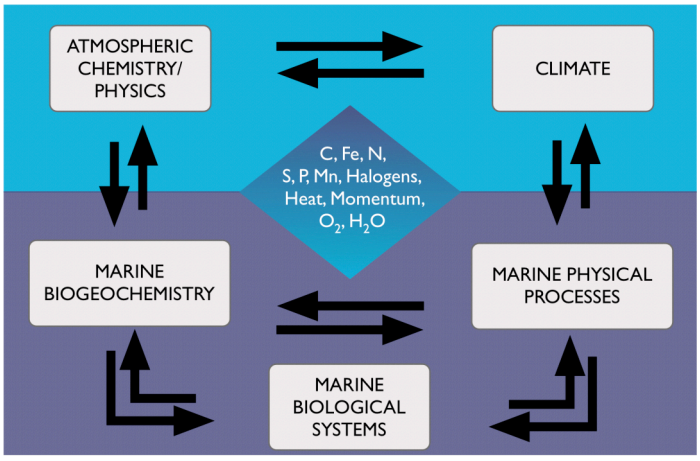

Figure 1 – the Scope of SOLAS

As a core IGBP project addressing the interface between two components of the Earth system, SOLAS depends on research that is not only interdisciplinary, but also involves closely coordinated field studies in which the different research components are combined so as to produce comprehensive data sets. Achieving understanding of processes that occur at the ocean-atmosphere interface requires an enhanced level of cooperation in planning and execution of research among many different disciplines in the environmental sciences. SOLAS Science 2004 provided an important opportunity for building these multi/inter disciplinary linkages and broadening participation in SOLAS

Meaningful developments in SOLAS depend on research that is not only inter-disciplinary, but also closely co-ordinated, The success of SOLAS will depend on the effectiveness of such cooperation and ability to integrate measurements and analyses from many different nations working on different disciplines to answer broad questions that individual nations cannot address alone. Large-scale international activities such as SOLAS Science 2004 encourages multi-investigator studies and helps to avoid unnecessary duplication of effort. It is of importance that SOLAS scientists from all disciplines and nations are brought to such events in order to build upon and improve the existing knowledge without divergence.

As SOLAS moves further into its implementation phase, the Implementation groups will benefit from knowledge of what work is currently being undertaken and planned in the regions. Since SOLAS deals with issues at global scales, it aims to be a truly international programme. Many Asia-Pacific nations are embarking on SOLAS activities. It is therefore important to have funding to enable the attendance of younger scientists in developing Asia-Pacific countries, allowing them to travel to such events as SOLAS Science 2004. The APN travel fund was vital for supporting the attendance of young or early career scientists from the region who could not otherwise attend the SOLAS Science conference 2004.

The main objectives of the project were:

1. The identification of SOLAS scientists in the APN region who were not already part of a national SOLAS network, and also potential SOLAS national representatives in countries where they are needed.
2. To foster collaboration by providing the opportunity for young scientists from the Asia-Pacific region to attend SOLAS Science 2004.
3. For the young scientists to see how their work fits into the broader framework of global change science, and to further their careers through international collaboration.

SOLAS Science 2004 was the first international conference to present the initial results of the programme and to build linkages between nations where SOLAS science is being undertaken. As the first conference to specifically communicate SOLAS science, it was a milestone in the project's development, and the funding to enable the attendance of young researchers from developing countries was necessary.

2.0 - SOLAS Science 2004 Conference Summary and Outputs

Conference Summary

SOLAS Science 2004 ran over four days from the 13 – 16th October at the Westin Nova Scotia Hotel, Halifax, Canada. 222 participants from 24 countries, including APN countries Australia, Bangladesh, China, India, Indonesia, Japan, New Zealand, Russia, Thailand and the USA, attended the event, including the 8 young scientists supported by the APN.

Nineteen speakers from ten different countries gave wide-ranging educational plenary talks covering the broad range of multidisciplinary science spanned by the domain of SOLAS. See pages 42-56 in the Conference Handbook (included in the appendix) for the speakers, talk titles and abstracts. These morning talks, alternated from atmospheric science to oceanic topics to increase awareness within both communities.

Each afternoon consisted of sizable poster sessions that provided a forum for international junior and senior scientists, including the APN supported young scientists, to present their research to the community. The posters were grouped on a subject basis and presented alongside posters on similar topics. This provided an extra opportunity for scientists working on similar issues to benefit from each other's research and network within their research themes. A list of the poster sessions including all poster titles can be found in the Conference Handbook, pages 25-35. A CD-ROM of the abstracts of all the poster presentations can be found in the back cover of the Handbook.

Discussion sessions on current SOLAS topics took place to which all were invited. Titles and background to each of these sessions can be found on pages 36 – 41 of the Conference Handbook. These sessions provided an opportunity for scientists working in similar areas to come together and discuss recent developments and the way ahead for 'hot' topics of the day.

In addition to the structured activities of the conference, regular coffee and lunch breaks provided an invaluable opportunity for informal networking and conversation between international junior and senior scientists, scientific project officers and funding bodies.

Outputs

- *Conference Handbook*

  The conference produced a handbook that included the conference programme, poster presentation titles, discussion session and plenary talk abstracts and a comprehensive participant list. The handbook also contained a CD-ROM of all the abstracts from the poster presentations. Everyone who attended the conference received one of these handbooks with an abstract CD inserted. This handbook and the abstract CD-ROM are included here as an appendix.

- *Conference proceedings in SOLAS News*

  Science highlights from the conference, and reports from the discussion sessions were summarised and published in the first edition of SOLAS News, in January 2005. This newsletter is sent to the SOLAS community of over 1000 people worldwide. This publication is also included in the appendix.

- *Plenary talks on SOLAS web*

  In order to provide access to information from SOLAS Science 2004 for people who could not attend the conference, the plenary talk presentations have been put on the SOLAS website. These talks can be found at http://www.uea.ac.uk/env/solas/ss04.html.

3.0 APN-Funded Participants

Review Process

The young scientists considered for the travel fund were required to be below 40 years old (with preference given to those within 5 years of receiving their doctorate) and working on a topic of study within the scope of the SOLAS Science Plan and Implementation Strategy. We received over 40 high quality applications in the form of a CV and a 300-word abstract of their research to be presented at the conference. The applications were reviewed by at least 2 out of the 10 members of a selection committee from the applicants' region.

The applications were marked out of 25 on the following criteria:

1. **Quality of science shown by the applicant's abstract and previous publications, bearing in mind the stage the applicant is at in their career.**

Score of 10: 0 representing no scientific merit at all, 5 a good, but ordinary quality and 10, an exceptional scientific quality implying that we must have this applicant attend the conference.

2. **Relevance to SOLAS Science, as defined by the SOLAS Science Plan and Implementation Strategy.**

Score of 10: 0 being a topic irrelevant to SOLAS, and 10 being a topic of key importance to the study of the "biogeochemical-physical interactions and feedbacks between the ocean and the atmosphere, and the interactions between this coupled system and climate and environmental change"

3. **Potential for collaborative work with other SOLAS scientists in the region and/or participation in SOLAS networks.**

Score of 5: Here we were trying to make sure that those scientists whose work is important in a global or regional context and who would most benefit from attending an international event were the ones we funded. Essentially we wanted to support applicants whose work will be of interest to other scientists from outside their own country.

Participants

From an approximate budget including flight, visa, accommodation and per diem costs, we estimated we could fully support the attendance of nine young scientists. The nine highest scoring candidates from the review process were then contacted and informed of their successful application. However, one of the successful applicants had to withdraw the day before the conference, as he had been unable to obtain a visa to enter Canada. This left us eight remaining participants. A list of participants is shown in Table 1 below.

Name	Contact details	Abstract title
Kawser Ahmed	University of Dhaka, Curzon Hall Campus, Dhaka, 1000, Bangladesh	Nutrient and phytoplankton dynamics in northern Bay of Bengal: An ecological-physical coupled model.
Jingua Guo	The Centre for Atmospheric Environmental Study, Beijing Normal University, 19 Xinjiekouwai Street Beijing 100875 P. R. China	The atmospheric input of trace elements to northern South China Sea and the evidence for Fe-S coupling in the atmosphere and ocean cycles
Tie Li	Marine Chemistry, Ocean University of China, 5 Yushan Road, Qingdao, 266003, P. R. China	Possible effect of Asian dust on marine biological production in the subtropical Shikoku basin, the western North Pacific.
Purvaja Ramachandran	Inst. for Ocean Management, Anna University, Chennai Tamil Nadu, 600025 India	Nitrogen cycling in Indian mangroves
Jingling Ren	Chemistry and Chemical Engineering, Ocean University of China, 5 Yushan Road, Qingdao, 266003, P. R. China	Trace elements in the marine aerosols in the marginal seas of China.
Lokesh Sahu	Physical Research Laboratory, Veneri 97, Navrangpura, Ahmedabad, 380009, India	Study of trace gases in the marine boundary layer (MBL) of the Bay of Bengal.
Vanissa Surapipith	Pollution Control Dept., Ministry of Environment Paholyotin Soi 7 Bangkok, 10400 Thailand	Nitrogen input to costal regions of the Thailand seaboard.
Zifa Wang	Inst. of Atmospheric Physics, Chinese Academy of Science, Qijiahuozi building 40 52 Sanlihe Rd Beijing, 100029, P. R. China	Atmospheric input of mineral dust to the western north Pacific

Table 1. Participants attending SOLAS Science 2004 with the APN travel fund.

The $20,000 granted by APN for the travel fund was entirely spent by supporting the 8 participants. In fact, their costs were actually slightly greater, and the excess costs had to be taken out of money granted from SCOR (The Scientific Committee for Oceanic Research) who had granted USD $7.500 for scientists from developing countries. The APN travel fund was spent on the travel and accommodation and conference attendance costs for the young scientists. A break down of these costs is shown in Table 2.

	Actual Cost (US$)				
Supported Scientist	Airfare	Hotel	Meals	Discounted registration fee	Total
Vanissa Surapipith (Thailand)	*1,746.14*	*583.83*	*37.70*	*59.39*	*2,427.06*
Zifa Wang (P.R. China)	*1,431.83*	*702.71*	*311.87*	*59.39*	*2,505.80*
Jinghua Guo (P.R. China)	*1,431.83*	*702.71*	*283.44*	*59.39*	*2,477.37*
Kawser Ahmed (Bangladesh)	*1,500.00*	*583.83*	*326.51*	*59.39*	*2,469.73*
Tie Li (P.R. China)	*1,631.07*	*583.83*	*68.68*	*59.39*	*2,342.97*
Jing Ling Ren (P.R. China)	*1,631.07*	*583.83*	*222.06*	*59.39*	*2,496.35*
Weidong Zhai (P.R. China)		*142.92**			*142.92*
Purvaja Ramachandran (India)	*1,608.23*	*583.83*	*236.18*	*59.39*	*2,487.63*
Lokesh Kumar Sahu (India)	*1,676.60*	*583.83*	*330.36*	*59.39*	*2,650.18*
Totals	**12,656.77**	**5,051.30**	**1,816.80**	**475.13**	**20,000.00**

* Hotel cancellation fee

Table 2. Expenditure in US$

Participant Evaluation

The feedback we received at the time of the conference was very positive, relating to the platform that the conference provided for the exchange and receipt of knowledge, ideas and partnerships. After the event, the participants provided further evaluations of their experience. A selection is shown below:

- *Tie Li, Ocean University of China, Qingdao, China.*

"My field of interest is biogeochemical cycles of biophile elements in the atmosphere - land - ocean system, especially for aeolian transport of nutrients and trace elements to the ocean and its effect on marine biological production. The first benefit from the SOLAS Science Conference 2004 is that my background knowledge about atmospheric-oceanic science has been expanded by listening to the presentations, by reading the posters and communicating with many scientists. This helps me to grasp the key points truly and generated new ideas in my study work. The second benefit is that I began to know many famous scientists and excellent researchers over the world. Further contacts with some of them have been built up to improve my future studies. I would like to express my gratitude for the support to attend the SOLAS Science Conference 2004."

- *Vanisa Surapipith, Ministry of Environment, Bangkok, Thailand.*

"My initial field of interest is atmospheric modelling and after studying for the PhD at the School of Environmental Sciences, UEA, and coming back to Thailand working in the Ministry of Natural Resources and Environment, I am particularly interested in integrating the Earth system understanding to planning for sustainable development. I work in the Air

Quality and Noise Management Bureau of the Pollution Control Department in the ministry, where we have set up a capacity building network called TAPCE (Thailand Air Pollution Centre of Excellence) in order to arrange government funding into building capacity of air pollution related research community. The community comprises of 14 universities where there are schools of environmental sciences and engineering around Thailand. After the first SOLAS meeting in October, I sent copies of the SOLAS report and announcement to the contacts and we got exciting feedbacks that several research topics are being raised. Some have already started e.g. Estimation of Biomass Burning Emission from South East Asia and the Smoke Impact assessment. The study on the interactions at the surface between the ocean and lower atmosphere is required to be encouraged more in the region. Also through on-going collaboration with the Asian Institute of Technology, I aim at more detail research about the impact of atmospheric input to the Gulf of Thailand, where database is getting improved. This is the continuation of the work I presented in Halifax. It is hoped that more contribution from this region will come to the SOLAS community that we plan to do more joint researches with other groups with higher experiences in Asia, Europe and USA."

- *Jing-Ling Ren, Ocean University of China, Qingdao, China.*

"It was my honour to get the financial support to attend the SOLAS Science Conference 2004 in Halifax last year. I am mainly interested in the transport and deposition of macro and micro components in the aerosols to the ocean and their effects on marine biogeochemistry. I am also interested in the feedbacks from the atmospheric inputs to the climate and terrestrial systems.

I can follow the newest results and hotspots in this field through the wonderful presentation given by famous scientists and get some new ideas. I recognized many young scientists through reading and discussing in poster sessions and can communicate with them in the future. And most important is that I feel the gap between our works and others. SOLAS Science Conference 2004 is very valuable for my career and will improve my capacity in the research.

I would like to express my great thanks for the organizer and sponsors here. Thank you very much for giving me this uncommon opportunity to attend the SOLAS Science Conference 2004."

- *Purvaja Ramachandran, Anna University, Chennai, India.*

"Field of interest: Air-Sea exchange of CH_4 and N_2O in tropical mangrove ecosystems, estuaries and islands in the Bay of Bengal with special reference to natural hazards and human perturbation.

As a first step towards refining the greenhouse budgets of coastal waters and hence resolving some of the issues related to SOLAS themes, detailed and targeted studies of important sub-tropical and tropical coasts are currently under progress in our Institute. We are engaged in evaluating the sub-tropical estuarine and mangrove contributions to the global budgets of CO_2, CH_4 and N_2O. We achieve this aim through detailed studies of water column concentrations and associated parameters, and by the calculation/ direct measurement of atmospheric fluxes at carefully selected sites around the Bay of Bengal, principally along the East Coast of India. Because existing such data are so rare, the extensive and highly detailed observations will make a major contribution to constraining mangrove and sub tropical estuarine trace gas fluxes globally. The value of these data will be further enhanced through the development of a generic model of mangrove trace gas cycling that should be of value in aiding future predictions of tropospheric trace gas growth. These outputs will also help identify the climatic consequences of mangrove exploitation, information that will aid strategies for sustainable coastal development. In addition, we also examine the mangrove contribution to global N_2O using detailed studies of N fluxes,

nitrification and denitrification rates and associated N_2O production and atmospheric flux at carefully selected contrasting mangrove sites. Using these data we will develop a generic model of mangrove N cycling and N_2O flux that should be of value in aiding future predictions of tropospheric N_2O growth.

The SOLAS Conference at Canada has been a stage to deliver current results from our own studies and also to learn from the research experience of other contributors. One could make instantaneous comparison of research methodologies, results, and interchange research ideas. This conference provided an opportunity to evolve sound partnerships and networks for future research collaborations and strengthened already existing research collaborations to a great extent. All these were made possible only by the extensive support provided by SOLAS for our participation in this very important and impressive conference."

- *Jinghua Guo, Beijing Normal University, Beijing, China.*

"I am so happy to have the chance of attending the SOLAS meeting held last October. Thanks a lot to the organizer of the meeting and the funding that I got. Were it not for the funding, I would not be able to attend the meeting and learn from scientists all over the world. My field of interest is atmospheric chemistry especially aerosol chemistry and I have been involved in a China SOLAS project just funded by NSFC. The SOLAS meeting opened me a very important roll that aerosol plays. The SOLAS meeting also gave me the opportunity of learning what the others have done in Air-Sea interaction and made me more familiar with the ocean part of the project. I can understand the project more and I think it will be very helpful for my research work in the Chinese SOLAS project. Thanks again to the committee and the organizer."

4.0 Conclusions

SOLAS held its first science conference in Halifax, Canada in October 2004. The International SOLAS Project Office received funding from APN to support the attendance of young scientists from developing countries within the APN region who would not otherwise have been able to attend the conference.

The main objectives of the project were:

1. The identification of SOLAS scientists in the APN region who were not already part of a national SOLAS network, and also potential SOLAS national representatives in countries where they are needed.
2. To foster collaboration by providing the opportunity for young scientists from the Asia-Pacific region to attend SOLAS Science 2004.
3. For the young scientists to see how their work fits into the broader framework of global change science, and to further their careers through international collaboration.

Of the 40 applications for the APN travel fund we received, eventually we were able to provide 8 young scientists from Bangladesh, China, India, and Thailand with full support. The support included all travel, accommodation and subsistence costs.

The supported young scientists were able to present their work to the SOLAS community and learn from the cutting edge SOLAS science that was presented. We have received positive feedback from the supported young scientists relating to the well-structured platform provided for learning, discussing and sharing SOLAS science with the international community

The project fulfilled its objectives, namely:

- We identified scientists and research groups that we did not know about. Developments are underway for a SOLAS Thailand network and we have expanded our network in several other countries.
- The broad scope of the posters presented, as well as the plenary talks and discussion, reflected the wide ranging agenda of SOLAS science. This is evidenced by the topics covered in the first SOLAS newsletter.
- The young scientists reported that the conference provided the following benefits:
  - Expanded their background knowledge and generated new ideas in their studies.
  - Evolved sound partnerships and contact networks.
  - Filled the gaps between their own and other's research.
  - Allowed comparison of research methodologies and ideas.
  - Exposed them to new results and field 'hotspots'.

Future directions

Further SOLAS Science conferences are planned to take place on a biennial basis. The next conference will be in Xiamen, China, March 6-9 2007.

Every other year SOLAS holds an international summer school specifically designed for education and capacity building within the international SOLAS community. Attendance of students from the APN region will be strongly encouraged and we will utilise the networks we have built through this project. We have received approximately 50 applications for the 2005 school from Asian young scientists.