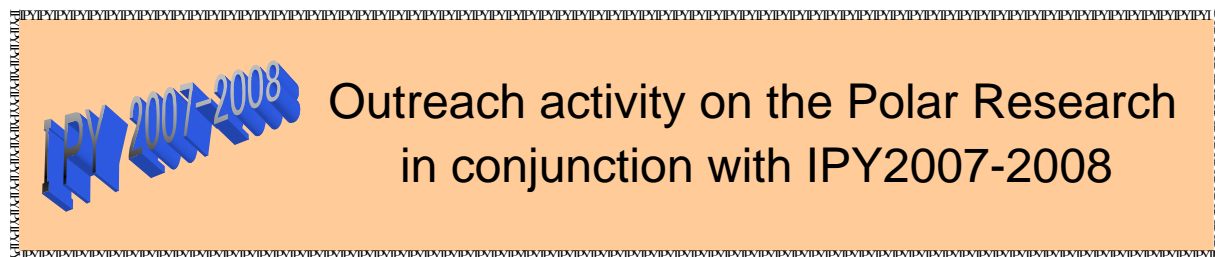


Appendix 2. Outreach Activity: Junior Contest



Tokyo, 11 January 2005

Yoshiyuki Fujii

Chair, IPY2007-2008 National Committee of Japan

The promotion of young scientists is essential to any field of research, unless a long term development of the said field is not in question. The statement is especially serious for the fields of research, which are carried out in remote locations and are not familiar to the public, e.g. polar research.

The promotion of the young scientists should be started as early as possible, ideally before they become scientists.

The IPY2007-2008 National Committee of Japan (NCJ) and National Institute of Polar Research (NIPR) started the outreach activity targeting school pupils. The pupils are 12 to 18 years old and are potential polar researchers.

JUNIOR CONTEST

A message was sent to high schools and junior high schools in Japan:

Each pupil is requested to write a research proposal, under the assumption she (he) were given opportunity to visit the Arctic or the Antarctic and carry out her own research in the polar region. The proposals are to be submitted to the organizing committee of the Contest, “Bring School Pupils’ Idea to the Arctic and the Antarctic” (the committee), which was jointly established by NCJ and NIPR.

273 pupils of 24 schools responded to the call, and the committee received 65 proposals from individuals and groups. All of them are lovely, and many are excellent. The committee met difficulty to classify them.

Jury group was established under the committee. The chief jury, Prof. Susumu Kokubun, and 9 juries worked on the proposals, and the prize winners were announced after its



photo 1

final meeting on 17 November 2004.

Nine proposals are selected to be Excellent, of which three proposals are selected as Outstanding, considering the possibility of the in situ execution in near future. 12 proposals are awarded Special, which are superior in some aspect, e.g. fresh idea adult scientists never think about, friendly proposal to our planet, perfect logical structure, etc. 44 proposals are ranked Nice.

OPEN FORUM

An Open Forum was held on 18 December 2004 at NIPR, Tokyo. All the pupils who got the prize above were invited to the Forum. 81 pupils participated in the Forum. 16 teachers and 44 friends/families accompanied them.

The forum was commenced with a commendation. The prize winners were awarded with certificate, medal and prize (photo 1, photo 2).

The presentation followed the commendation ceremony. Those who obtained Outstanding/Excellent were requested to give an oral presentation of their proposals. Other prize winners presented their proposal in the form of a poster session (photo 4, photo 5).

It was amazing how nice the pupils made presentations. The preparation work hidden behind the presentation is suspected to have been tremendous.

OUTCOME

The committee does not expect more than a fraction of the participating pupils become polar scientists directly. It recognized, however, many pupils including those who did not submit the proposals, learned about the Antarctic and the Arctic, which had been complete unknown to them. The number of such pupils is estimated to be a couple of tens of thousand, optimistically.

Further more the opportunity raised the interest of the school teachers on the polar research. They will hopefully continue to tell some words about the polar regions to pupils in the class room every year. The committee hopes a long term outreach activities has just started.



photo 2

FURTHER PLAN

The experiment/observation proposed by the Outstanding winners are planned to be carried out at the Syowa Station by the Japanese Antarctic Research Expedition in the course of the wintering in 2005.

The contest and the forum drew attentions of mass media, and several news papers wrote articles on their papers.

The contest is planned to be annually held at least for 5 years until IPY2007-2008. It is also considered

to invite the pupils and/or teachers who submitted/instructed excellent proposals, to the Polar Regions in future.

PROPOSALS

The proposals are classified in disciplines.

35% in Biology (e.g. penguin, flora)

15% in Environment (e.g. soot/dust, ultraviolet ray, food, CO₂, wind power generator, light catalysis)

12% in Geo-science (e.g. fossil, meteorite, meteor)

11% in Glaciology (e.g. snow crystal, sea ice)

8% in Aurora

6% in Physics (e.g. sound velocity, gravity)

3% in Climatology (e.g. solar rays, blizzard)

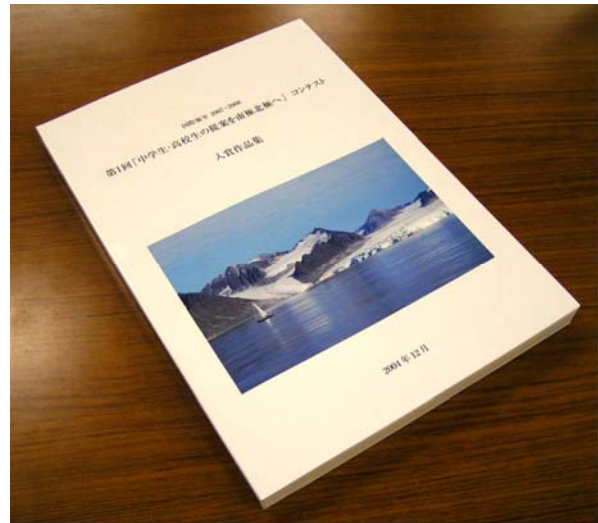


photo 3

The proposals of the prize winners were collected, and a booklet was published (photo 3).

The titles of the Outstanding/Excellent Prize Winners are given with a short comment of the juries of the committee. The age shown indicates that of the group leader.

1 Measurement and analysis of organic contamination contained in the fat and excrement of penguins in the Antarctic. (group of 9 boys, age 17)

*** The fish swimming around the Antarctic Ocean is eventually caught by penguins. The study aims to elucidate the global ocean contamination.

2 Snow and ice in the polar region. (group of 6 pupils, age of 17)

*** Through the crystal shape observation and the Tyndall figure experiment, the characteristics of the polar ice are to be compared with that of temperate ice in Japan.

3 Basic physical phenomena in the polar region (group of 23 pupils, age 13)

*** Are the phenomena learned in the science class effective also in the polar regions? Unsophisticated question proposes the experiments of sound velocity (linearity of temperature term), deviation in sandglass (gravity) and swirl in bath tub (Coriolis'force).

4 Study of auditory sense of penguins (individual, boy, age 13)

*** Penguin mother is supposed to find her baby among hundreds of similar chicks using superior auditory sense. The proposal mentions, the elucidation of the mechanism may bring a new technique in the communication system.

5 Study of oxygen consumption of the polar fish (group of 4 girls, age 16)

*** Based on the question, why the fish in the polar region has a high oxygen consumption in spite of its low activity, a precise experiment plan is proposed.

6 Global Meteor Observation (group of 5 pupils, age 17)

*** To investigate the influence of the earth's rotation and atmospheric structure on the physical characteristics of meteors, it is proposed to carry out the observation also at high latitude.

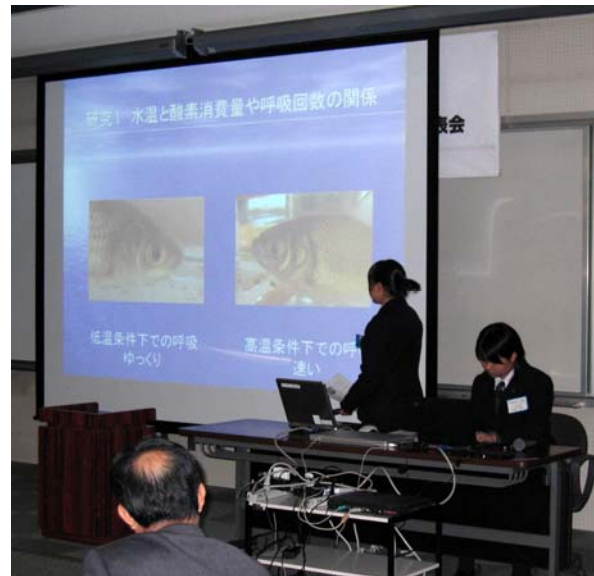


photo 4

7 Sewage purify with light catalysis at Syowa Station (individual, boy, age 12)

*** The ultraviolet ray abundant in the Antarctic is proposed to be utilized in the sewage treatment of the research station.

8 Study of falling and floating soot/dust in the Antarctic. (group of 3 girls, age 12)

*** The soot and dust in the atmosphere are index of the environment contamination. It proposes to measure them in the polar region, where the contamination is presumably low, with simple equipments, for the purpose of comparative study.

9 Wind power generator utilizing blizzard (individual, boy, age 12)

*** The idea, to utilize the strong wind in the polar region, which is usually hated by wind power generator engineer, is simply fresh.



photo 5