

Initiative of Science Council of Japan on master planning of large scale scientific researches and facilities

NAKAJIMA, Teruyuki^{1*}

¹Atmosphere and Ocean Research Institute, University of Tokyo

Science Council of Japan started since 2010 an initiative of establishing a master plan of large scale science researches and facilities. This initiative has been born to overcome the recent difficult situation of launching large scale scientific researches and facilities with 10 billion yen budget. I like to overview the master plan and several issues regarding the planning.

Keywords: Science Council of Japan, Large scale research, Large scale facility, Master plan

A proposition on creating long-term roadmap in OSJ

KAWAMIYA, Michio^{1*}

¹Michio Kawamiya

The process for creating the "master plan for large-scale scientific projects" that JpGU went through revealed the necessity also for the Oceanographic Society of Japan (OSJ) to have mid- or long- term goals. Indeed, the Meteorological Society of Japan is also discussing on this matter. Furthermore, scientists are trying to "co-design" a supercomputer that will succeed the "K computer" through communications between computer science and user fields, based on long-term roadmaps from the user fields. These examples demonstrate that scientist community such as OSJ should have long-term goals independent of those "mid-term goals" that are periodically renewed by individual research institutes (such as JAMSTEC that the author belongs to). OSJ is, however, a voluntary body, which means that it would be difficult to sustain procedural system for establishing long-term goals. In the presentation, the author will discuss further on possible goals and systems that may benefit OSJ.

Keywords: Master plan, Large-scale program, roadmap, Oceanographic Society of Japan

Ocean as a key for projection of long term climate change

ABE-OUCHI, Ayako^{1*}

¹AORI, University of Tokyo and JAMSTEC

The role of deep sea and polar region is increasing for understanding the ongoing global warming and the better projection of future climate. We will here raise several research examples related to the determination of climate sensitivity, polar amplification, and Atlantic Meridional Overturning Circulation response.

Keywords: ocean, climate, paleoclimate

Action to build a base for breakthrough study by young researchers

HASEGAWA, Takuya^{1*}, New Year School Office²

¹JAMSTEC-RIGC, ²none

For the future breakthrough study, the further improvement of base for upbringing of the next-generation researcher is expected. In this presentation, the activity of the New Year School is introduced.

The New Year School (hereinafter, "NYS") is held every year in January. A plan and the administration of NYS are carried out by the volunteer activity by young researcher including graduate students mainly.

In NYS, a lot of invited lectures related to various fields of the earth science are planned. Participants can get information about the basics of study theme, latest results, future development, etc. of each lecture.

Furthermore, concepts of NYS include a theme to "present ideas and opinions, share them among participants, and then grope for a new ideas further". It is intended that the NYS plays a role as a chance to make "the opportunity" that participants can discuss among researchers of various fields, and make a new idea of future studies.

It is annual that NYS is held for two days. About invitation lectures, two categories of the standard lecture and the Ex lecture usually exist. In the standard lectures are given by invited lectures who are playing an active part in the front line of each field. In addition, in the Ex lecture, invited lectures about the activity in conjunction with research activities. In the past, activities concerning edition of the scientific information magazine, education, outreach activity, etc. were presented in the Ex lectures. As for the standard lecture and Ex lecture, from four to six lectures are usually carried out, respectively.

In addition to these lectures, the group work (roughly ten persons per every group) for one to two hours is carried out by all the participants. In this group work, participants can get deepening of each study consciousness, make the cooperation between future fields through discussions and brainstorming related to the cooperation between various fields and each lecture theme. The invited lectures also participate in this group work, to encourage and promote the group work discussions.

A lecture notebook is distributed to a participant of NYS. In a lecture notebook, many useful contents for graduate students and young scientists are included, e.g, abstract of each invited lecture, descriptions of now-how and experience about article writing, a presentation at conference, making of study proposal, the situation to surround the young researchers, observation cruises and the study abroad, etc. NYS reached the tenth in this year.

The activity content of NYS has been reviewed with several years interval, in association of the constitution change of the core members NYS office. Thus, there is a possibility that activity of continuation of the NYS is further development in future. The activity of NYS is supported by a young researchers and students' volunteer, and the participant in NYS is also mainly consisted from young researchers and graduate students. However, a number of students entering a graduate school tends to decrease in many fields of the earth science recently. It is required to avoid further decreasing in number of the graduate school student to sustain activities like NYS and to promote future break-through study.

In the presentation, I will show a further introduction of the NYS activity, and also possible outreach activity and industry-academia-government-citizen cooperation that can contribute to the long-term study base construction for breakthrough study in future as well as next generations of researchers.

Keywords: Build a base for breakthrough study, New Year School (NYS), cooperation between multi fields, Encouragement of next generation, outreach

”Hot spot” in the climate system: A nation-wide project on multi-scale air-sea interaction in midlatitudes

NAKAMURA, Hisashi^{1*}

¹RCAST, University of Tokyo

In this overview talk, the PI introduces a nation-wide project on multi-scale air-sea interactions under the East-Asian monsoon, seeking for future collaborations with scientists in related fields. The PI and other core members of the project have recently found several key phenomena that strongly suggest active roles of the midlatitude ocean, especially, strong western boundary currents (WBCs), in shaping the mean state of the climate and influencing its variability. In particular, we have been focusing on a huge amount of heat and moisture released from the narrow, warm WBCs into the atmosphere, postulating the concept of ”hot spot” in the climate as concentrated thermo-dynamical forcing on the atmosphere. In this project, we attempt to further develop the particular framework we have postulated by focusing on the Far East/ northwestern (NW) Pacific sector, as the most profound ”hot spot” in our climate system, where the sharp thermal contrasts form in both meridional and zonal directions under the influence of the East-Asian monsoon and the confluence of the Kuroshio and Oyashio currents. Unifying advanced high-resolution numerical modeling on the Earth Simulator (ES) and new-generation satellite data and conducting in-situ observation campaigns, we aim to deepen our understanding of multi-scale interactive processes involved actively in the air-sea heat and freshwater exchanges and their influence on the climate variability.

Keywords: air-sea interaction, western boundary currents, Kuroshio, monsoon, climate system, nation-wide project