§2. Enhancement of the Research Activities of Young Scientists and Institutional Documentation of Research Publications

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We had a strong financial support this year from the National Institutes of Natural Sciences (NINS) for the enhancement of the institutional activities. The Research Enhancement Strategy Office (RESO) was responsible for making the programs for this financial support. A proposal from the task force of the promotion of the young scientists' research activities was accepted in this finance for one-year program. It includes two major subjects of 1) supporting the original research planning of young scientists and 2) supporting the international research planning proposed by young scientists. The purpose of the first item is to foster the basic scientific capacity of young scientists who apt to focus on the routine works that are important in conducting the big research projects. Because the balance of the distribution of institutional budget is becoming such that the support for the basic science is decreasing compared with the project oriented researches, this program intended to activate a pure scientific motivation of young scientists by supporting their proposal for the basic research subjects.

The selection of the first group was made by referring to the application forms of the Grants-in Aid for Scientific Research ("Kaken-hi" in Japanese) submitted for the fiscal year 2015. Every year, the RESO team reviews the application forms of young scientists and helps them to upgrade their proposal by giving comments for correcting and improving the explanations. Young scientists whose application had not been accepted by the JSPS (Japan Society for the Promotion of Science) are the candidates of this support program. Among them, high-level applications with the scientific originality were selected for the support of the first group. Five proposals were selected:

- 1. Modeling of the real-time launch control of the electron cyclotron wave heating.
- 2. Basic material science for the liquid blanket with Lithium-Sodium alloy.
- 3. Observation of the mesa-macro scale turbulence using ECE diagnostics.
- 4. Multi-dimensional simulation study of the nondiffusive plasma transport.
- 5. Development of the fast neutron diagnostics for the steady-state burning plasma.

The second group for the international collaboration research was selected by reviewing the proposals by young scientists. This program was prepared to compensate the large reduction of the funding from the Graduate University of Advanced Study (Sokendai) for sending young scientists to over-seas research institutions or universities. Two proposals were accepted:

1. Research of heat flow with visualization of the flow field of cold fluids.

2. Formulation of the kinetic effects in the extended magneto-fluid model.

In addition to enhancing the research activities in the institute, it is necessary for the institute to complete the documentation of the research activities. This is becoming increasingly more important because the research institutes in Japan are requested to assert their contributions to society by showing definite data. The efforts of the "institutional research" (IR) are strongly requested by the government and society. For this purpose, NIFS has developed its own system, NAIS (NIFS Article Information System), for compiling records of research documents.

In 2014, the NAIS system was upgraded from version 2 to version 3. We continue to improve the system responding to the requests and comments from users. An important revision in 2015 was for the publication lists created by NAIS. Previously NAIS offered a single formulated publication list for the user based on the registered records in NAIS, which has the user name as a first-author. Because the paper publication list that includes papers with the author name in any position of the author list has become more standard than the first-author publication list, the new version of NAIS gives 8 different forms of publication list including the first-author list and the co-author list. In addition, user may create any style of the publication list for the rest of slots of 3 to 8. The purpose of this revision is to increase the motivation of researchers to put as many research achievement materials as possible into NAIS system.

Another revision of NAIS is the addition of record for the research facilities (or the names of the experimental devices) that contributes in conducting the collaboration program with NIFS. For many collaboration papers, the names of the NIFS researchers are included in the author list. For such cases, the statistical data of NIFS obtained from the scientific research database such as WoS (Web of Science from Thomson Reuters) or SCUPUS (Elsevier) include the information of the paper because the relationship between the research products and the institution is taken from the author list of the paper. However, in the case that no staff member of the institute is included in the author list of the paper, no contribution by the institute is counted. The inclusion of the name of the research facilities should be the important records of the university collaboration institutes in such a condition of the collaboration.

NINS has 5 research institutes, each of which has the historical background of collaboration activities for many years. They have their own systems of accepting applications, executing the collaborations and documentation of the research outputs. In these years, the discussions were made for developing the unified system of NINS for recording the scientific information of collaborations in all institutes in NINS. The main purpose is to establish the common database of the scientific output of NINS. Discussions for the program named NOUS (NINS Open Use System) started last year and we contribute to the designing of the system based on the experience of NAIS system in NIFS.