

8. Fusion Science Archives

One of main topics in the fiscal year of 2008 was to hold the lecture meeting on archives on July 15 for the purpose of enlightening NIFS staff on NIFS FSA (NIFS Fusion Science Archives). Necessity of such kind of event had been pointed out by Director-general of NIFS. The lecture meeting was the second one that followed the mini-symposium in February 2005 commemorating the foundation of NIFS FSA. Mr. Kazufumi Takayama, executive specialist for archival affairs of National Archives of Japan, was invited to give us a special lecture entitled "Importance of Archives". In his talk a wide range of archives nationwide and abroad were introduced and the status of Management Act of Archives, of which passage the Fukuda-cabinet had made effort for, was explained. In addition to the talk what had been done in NIFS FSA was introduced by K. Matsuoka. In this lecture meeting took part not only NIFS staff but also researchers from The Graduate University for Advanced Studies (SOKENDAI), National Institute of Japanese Literature (NIJL), High Energy Accelerator Research Organization (KEK), Institute of Molecular Science (IMS) and National Institute for Physiological Sciences (NIPS).

Other topics were in the followings. K. Matsuoka was nominated as the leader of "History of Inter-University Institutes and Archives" that is one of SOKENDAI projects and is closely related to archives. Because SOKENDAI consists of inter-university institutes the collaboration with NIJL, KEK, IMS and so on made a significant progress. That is, the retrieval of finding aids on the basis of EAD (encoded archival description) has been accelerated under the collaboration. The construction of resource sharing that is multidisciplinary in SOKENDAI is one of the targets of the project. The fruitful results on this subject are explained in the following three annual reports by C. Namba, H. Gotoh and Y. Takaiwa, respectively. This will be the most advanced retrieval system in the field of natural sciences. In addition to this, substantial efforts were made to enlighten staff of other inter-university institutes on necessity of archives. On October 9 about 10 people from NIFS, KEK, IMS and Tsukuba University of Technology visited National Observatory of Japan (NAO). Prof. K. Noguchi introduced activities in the Subaru office at Mitaka branch of Subaru Telescope and a good news was given that the chronological table on planning and construction of Subaru was made recently. Substantial amount of CDs on the construction of Subaru and on

interviews to pioneering researchers including K. Kodaira, former President of SOKENDAI, were distributed. On October 16 we visited National Institute of Polar Research (NIPR). NIPR was to be moved from Tokyo to Tachikawa-city near Tokyo in April 2009. We pointed out the fact that materials tend to be scattered and disappear on the occasion of the redeploy. Our visit was very useful because soon after our visit an ad-hoc committee was established in NIPR to keep tabs on materials in preparation for redeploy. On November 16 we visited Institute of Space and Astronautical Science (ISAS), Japan Aerospace Exploration Agency (JAXA) to get information on their archival activities and to discuss how to pay attention to collection of the historical documents. NAO, NIPR and ISAS that are big science research institutes have the common feature in communications and public affairs. From the viewpoint of fulfilling the social accountability their effort is concentrated primarily on enriching video pictures etc. on the basis of academic achievements. It is particularly worth noting that in NIPR old boys are really intense about archives. On January 8, 2009 we visited three institutes at Okazaki: IMS, NIPS and National Institute for Basic Biology (NIBB). Three institutes have their own organization for archives and they meet regularly to exchange information on archives. The last institute we visited was National Museum of Ethnology (NME). This museum is one of inter-university institutes in SOKENDAI belonging to National Institutes for the Humanities. Vast volume of collections of Tadao Umesao, Prof. Emeritus of NME, was introduced and we were very much impressed with perfection of his collection. Prof. M. Kubo gave us brief introduction about the archival activities in NME; there was a committee on archives. When we think back about the above activities we have recognized that the archival activities should be promoted through cooperation with other institutes. In this respect the role of SOKENDAI was great. NIFS FSA should continue to keep close ties with other institutes.

We attended meetings of societies related to archives, e.g., The Japan Society for Archival Science (JSAS), The Records Management Society of Japan and The 2008 Scientific Information Open Summit/The 10th Library Fair & Forum etc. to get information and to accumulate knowledge on archives. In addition to these we acquired knowledge on status of archival activities in academic societies, e.g., The Chemical Society of Japan,

Architectural Institute of Japan (AIJ), Japan Society of Civil Engineering, The Institute of Electrical Engineers of Japan, and The Institute of Electronics, Information and Communication Engineers (IEICE). Nothing specially advanced was recognized; in almost all of the societies archives are on a similar level.

K. Kimura and K. Matsuoka had a chance to visit National Archives and Records Administration (NARA) and Library of Congress in Washington in March 2009 with M. Sekimoto et al. of KEK owing to the bilateral cooperation program between KEK and NSF on archiving in high-energy physics in Japan by KEK Archives Office. When our retrieval system based on EAD could be linked with US system archival activities in the field of natural sciences will be much advanced.

In February 2009 general meeting of the SOKENDAI project was held. The recent activities were presented by K. Mihara (NME), M. Murakami (NIPS), K. Kimura (IMS), K. Noguchi (NAO), H. Kanda (NIPR), Y. Sato (ISAS), C. Namba (NIFS), and M. Sekimoto (KEK). Special talks were given by S. Ikeuchi, executive director of SOKENDAI, on the role of Science Council of Japan (SCJ) on the foundation of institutes, by Dr. Y. Tomita of Kyoto University on the role of computer graphics on archives. Prof. K. Hirata of SOKENDAI summarized activities on oral history (OH) and image arts and sciences. In OH interviews to KEK people are in progress, including pioneering scientists, administrative officials et al., by focusing on first 10 years since the foundation of KEK.

NIFS FSA contributed much to the special issue on 50th anniversary of the Japan Society of Plasma Science and Nuclear Fusion Research. As one of the events of the anniversary, in this fiscal year the round-table talk on international collaborations was held on June 24, where J. Fujita acted as a host. The content of the talk appeared in the special issue. NIFS FSA presented special panels on the flow chart of fusion research in Japan and on good-old-day photos of pioneers at the annual meeting of the society in December 2008. The English version of the flow chart was shown to IAEA and USDOE staff on the occasion of 22nd IAEA Fusion Energy Conference.

The NIFS collaboration research of this fiscal year consists of 6 research subjects by which an essential part of fusion archives is covered: 1) "Study on History of Fusion Research based on Archives" by K. Matsuoka, 2) "Construction of electronic finding aids for Fusion Science Archives Database" by C. Namba, 3) "Compilation of Chronology Based on NIFS Fusion Science Archives" by K. Kimura, 4) "Archival studies on devices of fusion science" by T. Kuroda, 5) "Archival Studies on Development of Heliotron Devices" by T. Mizuuchi, 6) "Archival Studies on History of IAEA Fusion Energy Conference" by E. Uematsu.

The total number of database registered amounted to about 19,000. The compilation of database on LHD construction was advanced by collaborators. The documents were newly added from Takako Kato, Prof. Emeritus of NIFS, Kenro Miyamoto, Prof. Emeritus of The University of Tokyo and late Kozo Momoki, Prof. Emeritus of Yokohama National University. The documents on US-Japan collaboration on fusion engineering were newly added, too.

Interview to Chushiro Hayashi, Prof. Emeritus of Kyoto University, was conducted, by K. Kimura as an interviewer and by S. Hanaoka in charge of photos and sound, on the early phase of fusion research in Kyoto Univ. on October 28 at Hayashi's house.

Achievements of collaboration researches were presented 1) at the 7th Joint Conference on Fusion Energy in June 2008 at Aomori, 2) at the autumn meeting of the Physical Society of Japan in September 2008 at Morioka, 3) at the annual meetings of the Japan Society of Plasma Science and Nuclear Fusion Research in December 2008 at Utsunomiya, 4) at the annual meeting of the Physical Society of Japan in March 2009 in Tokyo.

In the meetings mentioned above, the followings were presented, respectively: 1) "Development of Fusion Science Archives in Universities in Japan" by K. Matsuoka, 2) "Archival Studies on History of IAEA Fusion Energy Conference-Japanese nuclear fusion community's activity of 2nd International conference on Plasma Physics and Controlled Nuclear Fusion Research-" by T. Amemiya, 3) "Collaborative Institution in Early Days of Fusion Research" by H. Obayashi, 4) "Innovation of helical coils of CHS responding to the demands of helical plasma researches in 1980's" by K. Matsuoka, of which activity is supported by grand-in-aid scientific research, and "Issues on archives in inter-university institutes and relating fields" by K. Matsuoka at the symposium organized in the session of "History of Physics". This symposium was organized by our collaborator, Y. Takaiwa.

In addition to these presentations the followings were reported; "On Archives in Inter-University Institutes" by K. Matsuoka at the KEK-Sokendai Joint meeting "Record Management and Archives" in January 2009. In addition, the refereed paper "Innovation in Helical Coil of Compact Helical System" by K. Matsuoka was published, in December 2008, in the proceedings of the international symposium on "Innovation of Technology in Japan" that is supported by the grant-in-aid scientific research.

C. Namba contributed to the construction of institutional repository by working together with Research Information Office of NIFS, of which achievements are summarized in the chapter of archives of this annual report.

(Matsuoka, K.)