1. US-Japan (Universities) Fusion Cooperation Program

The 28th Executive Secretary Meeting (ESM) was held on March 24, 2010 at Hampton Inn, Germantown, MD US. It was noted that both sides have developed a significant and mutually valuable collaboration involving all technical elements of the fusion energy sciences program, and also discussed about bilateral programs, multi-lateral activities, and a safety monitoring activity. Thus, the both sides agreed the usefulness and necessity of the continuation of the Joint Activity. Further it was agreed that a report on about the past 30 years of bilateral collaborations would be very useful as a follow-up to the "Twenty Year Report" (dated June 22, 2000). Both sides agreed to prepare for the upcoming CCFE Meeting and present high-level technical highlights and a comprehensive report on bilateral collaborations.

NIFS as a member of "Inter-University Research Institute, National Institutes of Natural Sciences" conducted successfully the LHD experiments as well as theory, simulation and fusion technology together with collaborators from universities, JAEA and the international institutions.

One of the main activities of the Japanese university researchers participating in the US-Japan collaboration is the research in the major experimental facilities in US, while many US researchers participated in the LHD experiments and also in the field of theory, simulation and fusion technology as usual. The US-Japan joint project: TITAN (Tritium, Irradiation and Thermofluid for America and Nippon) project is now in the third year.

Fusion Physics Planning Committee (FPPC)

In the area of fusion physics, 2 committees, 10 workshops, and 17 personal exchanges were completed. The five proposals were not conducted partly due to the lack of funding. The workshops were successfully held, and the exchanges continue to be productive and beneficial to both sides. The annual meeting of the FPPC was held by a televideo communication on March 8, 2010 between the DOE – Germantown offices and two sites in Japan (NIFS and University of Tokyo). Participants were from Universities, NIFS, JAEA, and DOE to summarize the 2009 activities and formulate the 2010 activities. As a result, the proposed plan of 2 committees, 7 workshops, and 27 personal exchanges was agreed. The FPPC exchanges continue to contribute to scientific advances in both Japan and the U.S.

Joint Institute for Fusion Theory (JIFT)

Almost all of the activities in the two categories – workshops and personal exchanges were carried out during the past year.

All four workshops were successfully held, in addition to the JIFT Steering Committee meeting. In the category of personal exchanges, two Visiting Professors and six Visiting Scientists made exchange visits. Especially, equal numbers of JIFT workshops and exchange visits were performed in US and in Japan. The JIFT Steering Committee reviewed the status of JIFT activities for 2009-2010 and made the recommendation plans for 2010-2011 on December 8, 2009.

Fusion Technology Planning Committee (FTPC)

The TITAN project is being successfully conducted. The results will give a firm basis for comprehensive understanding on overall performance of DEMO-grade system including tritium transport, thermofluid and irradiation synergism. Of the planned cooperative items related to the TITAN, were completed in this fiscal year as follows: committee meeting, personnel exchanges, and workshops/technical meetings.

Personal exchange programs are continued in 6 research fields, namely, superconducting magnets, low-activation structure materials, plasma-heating technology, blanket engineering, high-heat flux components, reactor design & others. Of the 11 planned cooperative items related to the general technology joint planning categories, 9 were completed as follows: 4 workshops/technical meetings and 5 personnel exchanges.

General Secretary for US-Japan
Collaboration Planning Committee
Shigeru Sudo

STATISTICAL REVIEW OF FUY 2009 EXCHANGE PROGRAM (NIFS)

Grand Total

		US → J	J → US	Total
Proposed	Man	109	107	216
	Item	35	54	89
Performed	Man	94	84	178
	Item	31	41	72

Personnal Exchange Program

(Including Overall Planning)

		US → J	J → US	Total
Proposed	Man	22	2	24
	Item	3	1	4
Performed	Man	22	4	26
	Item	3	1	4

Fusion Technology

(1) Superconducting Magnets

		US → J	J → US	Total
Proposed	Man	1	0	1
	Item	1	0	1
Performed	Man	0	0	0
	Item	0	0	0

(2) Structural Materials

		US → J	J → US	Total
Proposed	Man	0	0	0
	Item	0	0	0
Performed	Man	0	0	0
	Item	0	0	0

(3) Plasma Heating Related Technologies

		US → J	J → US	Total
Proposed	Man	10	1	11
	Item	4	1	5
Performed	Man	10	0	10
	Item	4	0	4

(4) Blankets

		US → J	J → US	Total
Proposed	Man	0	0	0
	Item	0	0	0
Performed	Man	0	0	0
	Item	0	0	0

(5) In-Vessel/High Flux Materials and Components

		US → J	J → US	Total
Proposed	Man	0	6	6
	Item	0	2	2
Performed	Man	0	5	5
	Item	0	1	1

(6) Others

		US → J	J → US	Total
Proposed	Man	0	9	9
	Item	0	3	3
Performed	Man	0	6	6
	Item	0	3	3

Fusion Physics

(1) Planning

		US → J	J → US	Total
Proposed	Man	0	7	7
	Item	0	3	3
Performed	Man	0	5	5
	Item	0	2	2

(2) Steady-state Operation

		US → J	J → US	Total
Proposed	Man	1	12	13
	Item	1	4	5
Performed	Man	0	11	11
	Item	1	3	4

(3) MHD and High Beta

		US → J	J → US	Total
Proposed	Man	19	1	20
	Item	4	1	5
Performed	Man	12	0	12
	Item	2	0	2

(4)Confinement

		US → J	J → US	Total
Proposed	Man	1	1	2
	Item	1	1	2
Performed	Man	0	1	1
	Item	0	1	1

(5)Diagnostics

		US → J	J → US	Total
Proposed	Man	16	7	23
	Item	5	8	13
Performed	Man	13	5	18
	Item	5	6	11

(5)High Energy of Fusion Science

		US → J	J → US	Total
Proposed	Man	0	18	18
	Item	0	6	6
Performed	Man	0	7	7
	Item	0	3	3

Joint Institute of Fusion Theory

		US → J	J → US	Total
Proposed	Man	16	12	28
	Item	6	6	12
Performed	Man	16	12	28
	Item	6	6	12

DOE/MEXT MATERIALS (ANNEX Ⅰ, TITAN Project)

		US → J	J → US	Total
Proposed	Man	23	31	54
	Item	10	18	28
Performed	Man	21	28	49
	Item	10	15	25