

**JSPS Core-to-Core Program Integrated Action Initiative-  
FY2005 Implementation Plan (Project No. : 17008 )**

**Research Theme** International exchange program toward the establishment of research centers for advanced tissue engineering and regenerative medicine achieving the translational study

**Duration of Project** 2005/4/1 - 2007/3/31 (24 months)

**Core Institution in Japan (Co-Chair)** Tokyo Women's Medical University  
(Teruo Okano)

**Implementing Organizations**

**Japan**

Japan	Core Institution	Tokyo Women's Medical University	
	Co-Chair (name and title)	Teruo Okano, Professor	
	Cooperating Institutions	Osaka Univ., Nara Medical School, Tokyo Medical Dental Univ., Juntendo Medical School, Waseda Univ., Tsukuba Univ., St. Marianna University, School of Medicine	Number of Cooperating Institutions 7

**Partner Countries**

	Core Institution	Brigham & Women's Hospital, Harvard Medical School	
	Co-Chair (name and title)	Charles A. Vacanti, Professor	
	Cooperating Institutions	Univ. Pittsburgh, Univ. Michigan, Georgia Tech. Inst., Boston Univ., Colorado State Univ., Rice Univ., North Western Univ., Univ. Washington	Number of Cooperating Institutions 8

	Core Institution		
	Co-Chair (name and title)		
	Cooperating Institutions		Number of Cooperating Institutions

### Objectives of Research Exchange (including the five years after the project finishes)

Regenerative medicine has been expected to go beyond the limitations of current therapies. But to realize true regenerative medicine in wide fields, further development of tissue engineering as well as stem cell research must be pursued. In this project, various technologies of these disciplines will be integrated to establish the basis of true regenerative medicine. Especially, students and young researchers will be encouraged to become more international. We believe that such an attempt will be useful to make our advantage in these research fields continue for the future, and get the trade deficit of medical products corrected.

### Results to the present

Both coordinators have been good friends these years to discuss the present problems and future of tissue engineering and regenerative medicine. Many of the collaborators in Japan have experienced short or long stays in Boston, so that international friendship has been established between United States and Japan in these fields. For example, Dr. Yamato has been invited to have a lecture in the course for tissue engineering and regenerative medicine organized by the US coordinator. The international collaboration has already started.

### Summary of FY 2005 Exchange Plan

#### **Joint Research**

To combine two core technologies of tissue engineering, biodegradable scaffolds and cell sheets. The integration will open a novel way to reconstruct more complex tissues. In addition, novel methods for regeneration of capillary networks in reconstructed tissues that are connected to host vasculatures will be pursued.

#### **Seminar**

Every month, foreign researchers will be invited to Tokyo to have seminars. The international symposium will be held once a year in Tokyo or Boston.

#### **Researcher Exchanges**

Totally more than 30 researchers will stay in United States for a week. One or two young researchers will spend one month there.