

Project No. : 16002
Core Institution in Japan: The University of Tokyo

**JSPS Core-to-Core Program -Strategic Research Networks-
FY2007 Research Report**

Project No.	16002
Research Theme	Ultrafast Intense Laser Science
Duration of Project	2006/4/1-2009/3/31
Core Institution in Japan	The University of Tokyo

Implementing Organizations

Country	Japan
Core Institution	The University of Tokyo
Co-Chair (name and title)	Kaoru YAMANOUCHI・Professor
Number of Cooperating Institutions	13
Cooperating Institutions	RIKEN, TITech, JAEA, Tohoku Univ., Osaka City Univ., Ritsumeikan Univ., IMS, Keio Univ., Osaka Univ., NTT Basic Research Lab., Kyoto Univ., Univ. of Tsukuba,IMS

Country	Canada
Core Institution	Laval University
Co-Chair (name and title)	See Leang CHIN・Professor
Number of Cooperating Institutions	4
Cooperating Institutions	Univ. of Sherbrooke, NRC, INRS, Univ. of Alberta
Matching Fund	19,000CAD

Country	France
Core Institution	French Atomic Energy Commission, Saclay
Co-Chair (name and title)	Didier NORMAND・Department Head
Number of Cooperating Institutions	3
Cooperating Institutions	LOA, Paul Sabatier Univ., CELIA
Matching Fund	

Country	Germany
Core Institution	Friedrich-Schiller-University Jena
Co-Chair (name and title)	Gerhard G. PAULUS • Professor
Number of Cooperating Institutions	6
Cooperating Institutions	University Bielefeld, MPI for Quantum Optics, MBI for Nonlinear Optics and Short Pulse Spectroscopy, MPI for Nuclear Physics, MPI for Physics of Complex Systems, Forschungszentrum Dresden Rossendorf
Matching Fund	

Country	Italy
Core Institution	University of Palermo
Co-Chair (name and title)	Gaetano FERRANTE • Professor
Number of Cooperating Institutions	7
Cooperating Institutions	CNR research area Pisa, Univ. of Milano Bicocca, Univ. of Roma Tor Vergata, Univ. of Pisa, ENEA, Politechnical Univ. of Milano, CNR EURATOM-ENEA-CNR Association
Matching Fund	

Country	U.K.
Core Institution	University of Strathclyde
Co-Chair (name and title)	Kenneth LEDINGHAM • Professor
Number of Cooperating Institutions	3
Cooperating Institutions	Rutherford Appleton Lab., Blackett Lab. Imperial College London, Univ. of Reading
Matching Fund	

Country	USA
Core Institution	Temple University
Co-Chair (name and title)	Robert LEVIS • Professor
Number of Cooperating Institutions	9
Cooperating Institutions	Univ. of Michigan, Univ. of Maryland, Univ. of Texas at Austin, Lawrence Livermore National Lab., American Univ., Colorado School of Mines, Univ. of Central Florida, Univ. of Delaware, Ohio State Univ.
Matching Fund	

Result of Program Implementation

According to the annual plans for the first two years, organizations of international symposia, dispatches of researchers in Japan Team overseas, and invitations of researchers from abroad have been actively made, which have triggered and promoted strongly international research exchanges and collaborations.

Significant scientific achievements have been reported one after another based on these collaborations. Researcher exchanges of young researchers have also been made. In addition to these achievements, matching funds have been arranged for supporting our Core-to-Core program from the counterpart countries.

It can be said that the significant achievements were made in this year for activating further our international cooperation for coming year. It should be noted that our Core-to-Core Program has been supported cooperatively by Center for Ultrafast Intense Laser Science that was established in February, 2005, as one of the research centers of Graduate School of Science, the University of Tokyo. In addition, we started publishing the new review book series, "Progress in Ultrafast Intense Laser Science,"

from Springer on the basis of research activities supported by our Core-to-Core Program and other research programs and organizations in Japan, and the Volume I of PUILS was published in September 2006,

the Volume II was published in March 2007 and the Volume III was published in January 2008.

Achievements in FY2007 (Self Review)

Seminar: The following international gatherings were held: (i) International Symposium on Molecular Science of Ultrafast Electronic Dynamics (May 18th -19th, 2007 at Sendai), (ii) COAST One-day Symposium on Ultrafast Intense Laser Science 3 (May 17th, 2007 at Tokyo) (iii) The 6th International Symposium on Ultrafast Intense Laser Science (September. 23rd – 27th, 2007 at Pisa, Italy; Cochairs: A. Giulietti, K. Ledingham, and K.Yamanouchi)

Researcher Exchanges and Winter School: The researcher exchanges and research exchanges were made extensively in almost the same scale as planned when our program was launched. In FY2007, in addition to our regular activities in which a total of 32 researchers were dispatched from Japan for the activities of international meetings and collaborations, the COAST/CORAL Winter School on Advanced laser Science was held in January in Tokyo and Yuzawa, Niigata prefecture, for fostering young researchers in the world in the field of ultrafast intense laser fields, and a total of 15 researchers were invited from overseas as the lecturers and 19 young researchers were invited from overseas to attend the school. The large number of researchers whose travel and staying expenses were supported by the Core-to-Core Program means that international research exchanges have been made very actively.

Springer's New Review Book Series(PUILS): We started publishing the new review book series, "Progress in Ultrafast Intense Laser Science," from Springer on the basis of research activities supported by our Core-to-Core Program and other research programs and organizations in Japan, and the Volume I of PUILS was published in September 2006, the Volume II was published in March 2007 and the Volume III was published in January 2008.

Considering the above achievements, we can say that we have made significant progress during this fiscal year of the Strategic Research Network of our Core-to-Core Program.

Future Plan (Measures toward Achieving Research Objectives)

In coming years, on the basis of the financial support from the counterpart countries, using their matching funds in addition to that from our Core-to-Core program, we will further promote and activate research exchanges and researcher exchanges through international collaborations and international gatherings such as international symposia, seminars, and schools. We will also make an effort to keep publishing Springer's new review book series, "Progress in Ultrafast Intense Laser Science," for cooperatively expanding frontiers of the interdisciplinary research field of ultrafast intense laser science. In order to activate our Core-to-Core program on the Japan side, we will cooperate with the CORAL in the University of Tokyo established from FY2007 and with Japan Intense Light Field Science Society established three years and a half ago for expanding research exchanges in the interdisciplinary research field to industrial circles as well as to university-based academic circles.