

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

**JSPS Core-to-Core Program Strategic Research Networks-  
FY2006 Research Report**

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

**Implementing Organizations**

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

<b>Country</b>	Canada
<b>Core Institution</b>	Laval University
<b>Co-Chair (name and title)</b>	See Leang CHIN, Professor (Canada Research chair of Ultrafast Intense Laser Science)
<b>Number of Cooperating Institutions</b>	4
<b>Cooperating Institutions</b>	Univ. of Sherbrooke, NRC, INRS, Univ. of Alberta
<b>Matching Fund</b>	NSERC Special Research Opportunity

<b>Country</b>	France
<b>Core Institution</b>	French Atomic Energy Commission, Saclay
<b>Co-Chair (name and title)</b>	Didier NORMAND, Department Head
<b>Number of Cooperating Institutions</b>	3
<b>Cooperating Institutions</b>	Center of Intense Laser and Applications, Laboratory of Atmospheric Optics, LRSAMC Paul Sabatier Univ.,
<b>Matching Fund</b>	CEA

Country	Germany
Core Institution	Friedrich-Schiller-University Jena
Co-Chair (name and title)	Roland SAUERBRETY, Professor
Number of Cooperating Institutions	5
Cooperating Institutions	MPI for Quantum Optics, Bielefeld Univ., MBI for Nonlinear Optics and Short Pulse Spectroscopy, MPI for Nuclear Physics, MPI for Physics of Complex Systems
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 (William Penny Professor of Laser Induced Nuclear Physics)
Number of Cooperating Institutions	3
Cooperating Institutions	Rutherford Appleton Lab., Blackett Lab. Imperial College London, Univ. of Reading
Matching Fund	

Country	U.S.A
Core Institution	Temple University
Co-Chair (name and title)	Robert LEVIS, Professor
Number of Cooperating Institutions	8
Cooperating Institutions	University 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
Matching Fund	

## Achievements in FY2006 (Self Review)

*Researcher Exchanges and Autumn School:* The researcher exchanges and research exchanges were made extensively in almost the same scale as planned when our program was launched three years ago. In FY2006, in addition to our regular activities in which a total of 51 researchers were dispatched from Japan for the activities of international meetings and collaborations, the COAST Autumn School was held in September in Tokyo, for fostering young researchers in the world in the field of ultrafast intense laser fields, and a total of 7 researchers were invited from overseas as the lecturers and 13 young researchers were invited from overseas to attend the school. The large number of researchers whose travel and staying expanses were supported by the Core-to-Core Program means that international research exchanges have been made very actively.

*Cooperation with COST-P14 Program:* It should be mentioned that the COST-P14 Program, "Laser-matter interactions with ultra-short pulses, high-frequency pulses and ultra-intense pulses: from attophysics to petawatt physics," has decided to support the International Symposium on Ultrafast Intense Laser Science 6 to be held in September 2007, sponsored by our Core-to-Core Program, showing that our research network has been enforced by the European organization. This achievement can be regarded as one of the successful outcomes of international cooperation in our Core-to-Core Program.

*Springer's New Review Book Series (PUILS):* 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, and the Volume II was published March 2007.

*CORAL Established in University of Tokyo:* Furthermore, the Ministry of Education (MEXT) and the University of Tokyo have decided to support our Core-to-Core Program further by establishing the Consortium of Education and Research in Advanced Laser Science (CORAL) from FY2007 as the joint program of the Center of Ultrafast Intense Laser Science and the two research centers in the School of Engineering, the University of Tokyo for expanding our activities of the Core-to-Core Program for fostering young researchers in Optical Sciences in a larger scale. This can be regarded as a successful cooperation between the JSPS Core-to-Core Program and universities in Japan.

Considering the above achievements we can say that that we have made significant progress during the first fiscal years 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 and the COST-P14 Program, 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.