

Project No.:16002 Core Institution in Japan:The University of Tokyo
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JSPS Core-to-Core Program -Strategic Research Networks-
FY2008 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	School of Science The University of Tokyo
Co-Chair (name and title)	Kaoru YAMANOUCHI • Professor
Number of Cooperating Institutions	14
Cooperating Institutions	School of Engineering Univ. of Tokyo, ISSP Univ. of Tokyo, RIKEN, TITech, JAEA, Tohoku Univ., Osaka City Univ., Ritsumeikan Univ., IMS, Keio Univ., Osaka Univ., NTT Basic Research Lab., Kyoto Univ., Univ. of Tsukuba

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

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	CEA

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	Friedrich-Schiller-University Jena

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	CNR

Country	UK
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	University of Strathclyde

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	Temple University

Result of Program Implementation

According to the annual plans for the first two years, (i) organizations of international symposia, (ii) dispatches of researchers in Japan Team overseas, (iii) invitations of researchers from abroad and (iv) researcher exchanges of young researchers, have been actively made. These activities triggered and promoted international research exchanges and collaborations to a large extent.

In addition to these achievements, matching funds have been arranged for supporting our Core-to-Core program from the counterpart countries. Among the matching fund, the SRO program of NSERC (Canada) arranged by Prof. S. L. Chin was noteworthy. Through the SRO and Core-to-Core programs, international gatherings and researcher exchanges were supported.

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 Volumes I-IV of PUILS have been published during 2006–2008.

Furthermore, on the basis of the research exchanges and researcher exchanges achieved during these five years, the University of Tokyo exchanged the agreements with three organizations, (i) Institute of Optics and Quantum Electronics, Friedrich-Schiller-Universitaet Jena (Germany), (ii) Institute for Chemical and Physical Processes (IPCF) and National Institute for the Physics of Matter (IINFM), National Reserch Council (Italy), and (iii) Center for Optics, Photonics and Laser (COPL), Laval University (Canada), and is preparing for the the exchange of the memorandum of understanding with French Atomic Energy Commission.

Achievements in FY2008 (Self Review)

Seminar: The following international gatherings were held: (i) COAST/CORAL One-day Symposium on Ultrafast Intense laser Science, August 8th, 2008 at Tokyo, (ii) The 7th International Symposium on Ultrafast Intense Laser Science, November 24th - 28th, 2008 at Kyoto (Cochairs: A. Bandrauk, G. Gerber and K. Yamanouchi), (iii) COAST/CORAL Symposium on Ultrafast Intense Laser Science, March 12th - 14th, 2009 at Karuizawa, Nagano.

Researcher Exchanges and Autumn School: The researcher exchanges and research exchanges were made extensively as planned. In FY2008, in addition to our regular activities in which a total of 23 researchers were dispatched from Japan for the activities of international meetings and collaborations, the COAST/CORAL Autumn School on Advanced laser Science was held in Nonmember in Tokyo for fostering young researchers in the world in the field of ultrafast intense laser fields, and a total of 8 researchers were invited from overseas as the lecturers and 12 young researchers were invited from overseas to attend the school.

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. Since the publication of Volume I in September 2006, we keep publishing this PUILS series. The latest volume is Volume IV that was published in December 2008.

Academic research exchanges: In order to develop further the international research exchanges, the University of Tokyo exchanged the agreements with (i) Institute of Optics and Quantum Electronics, Friedrich-Schiller-Universitaet Jena (Germany), (ii) Institute for Chemical and Physical Processes (IPCF) and National Institute for the Physics of Matter (INFM), National Research Council (Italy), and (iii) Center for Optics, Photonics and Laser (COPL), Laval University

(Canada) on the cooperation in the research field of ultrafast intense laser science.

We are also preparing the exchange of the memorandum of understanding with French Atomic Energy Commission on the research fields.

As described above, significant achievements have been made during the final fiscal year of the Strategic Research Network of our Core-to-Core Program.