

JSPS Core-to-Core Program

FY2008 Implementation Plan (Project No. : 16006)

Research Theme Establishment of Japanese Virtual Observatory in relation with International Virtual Observatory by utilizing state-of-the-art information technology

Duration of Project 2006 / 4 / 1 - 2009 / 3 / 31 (36 months)

Core Institution in Japan (Co-Chair) National Astronomical Observatory of Japan
(Assoc. Prof. Masatoshi Ohishi)

Implementing Organizations

○ Japan

Japan	Core Institution	National Astronomical Observatory of Japan	
	Co-Chair (name and title)	Masatoshi Ohishi / Associate Professor	
	Cooperating Institutions	Aoyama Gakuin university, Tokyo Institute of Technology, University of Tokyo, JAXA/ISAS, Tokyo Gakugei university, Ibaraki university	Number of Cooperating Institutions 6

○ Partner Countries

Germany	Core Institution	European Southern Observatory	
	Co-Chair (name and title)	Paolo Padovani /EURO-VO Project Scientist	
	Cooperating Institutions	Strasbourg Data Centre, European Space Astronomy Centre	Number of Cooperating Institutions 2

U.K.	Core Institution	Cambridge University	
	Co-Chair (name and title)	Nicholas Andrew Walton / AstroGrid Project Scientist	
	Cooperating Institutions	Jodrell Bank Observatory, University of Edinburgh, Rutherford Appleton Laboratory, The University of Manchester, Mullard Space Science Laboratory, University of Leicester, The Queen's University of Belfast	Number of Cooperating Institutions 7

U.S.A.	Core Institution	Space Telescope Science Institute	
	Co-Chair (name and title)	Robert James Hanisch / Project Manager	
	Cooperating Institutions	The Johns Hopkins University, California Institute of Technology, National Center for Supercomputing Applications, National Radio Astronomy Observatory, National Optical Astronomy Observatories, San Diego Supercomputing Center, Smithsonian Astrophysical Observatory, NASA Goddard Space Flight Center, Dominion Astrophysical Observatory	Number of Cooperating Institutions 9

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

It has been requested to understand the formation of the universe and galaxies, and the origin of the life by statistically treating high sensitivity and large-scale multi wavelength data acquired with the latest telescopes. It was difficult immediately to exchange and to use these observational data because the network was slow to exchange such data to each other. However, the progress of recent network technology is remarkable, and current impossibility is becoming possible. Therefore we aim to construct in Japan a new research environment through a high-speed network in order to exchange observational data to clarify the previous problems, and to provide immediately with research results to the society.

Results to the present

Japanese Virtual Observatory implemented standardized VO interfaces defined through the IVOA seminars, joint researches, etc., and succeeded to interoperate with VOs in the partner countries since December, 2004, and it is now possible to access from the JVO portal to more than 1,300 astronomical resources in the world. The JVO portal has been accessed more than 10,000 pages per month. In the course of these activities, young researchers actively participated in the relevant discussions in the international seminars, and they have succeeded to construct very good relationship with researchers in the partner countries.

Summary of FY 2008 Exchange Plan

Joint Research

Some JVO members plan to visit and stay for a while at the Johns Hopkins university, USA, ESO and ESAC to develop data access protocols. Japan and the UK will develop a work flow system. Furthermore JAXA/ISAS members will work together with the ESAC to publish data from Suzaku, Akari, and other satellite systems.

Seminar

It is planned to hold two major seminars to discuss and define VO interfaces. One meeting will be in Trieste, Italy, in May 2008, and the second meeting will be held in Baltimore, USA, in October 2008, hosted jointly by the European and the USA VO group, respectively. We will also hold an international symposium in November in Tsukuba to transfer the VO technology to the geophysics community.

Researcher Exchanges

It is expected to visit to each other and exchange researchers to discuss science use cases and functionalities that are required to the international VO activities. We plan to encourage young researchers to visit Europe and/or the US to establish "human network" not only for the VO activity but their own research activities. We start to discuss with the ALMA (Atacama Large Millimeter and submillimeter Array) project, that is under construction in Chile through international collaboration among Japan, North America and Europe, to implement the VO technologies to the relevant software systems for the ALMA.