

Observatory of Paris (UPMC as third party)

Partner contact person: [M. L. Dubernet](#)

Profile: The Observatory of Paris is the leading astronomical institution in France in terms of staff and budget size, as it represents one third of the astronomical resources in France. Its activities cover all the major research topics in astronomy and astrophysics, as well as having teams carrying out atomic and molecular calculations. It is involved in large Space and Ground Instrumental Projects for Study of Stars, Planets, Interstellar Medium, ExoPlanets. It has links with Space Agencies CNES and ESA. It is composed of five science departments and several common services, among which a central infrastructure called VO Paris Data Centre (VO-PDC). VO-PDC is a federative infrastructure linked to the departments and the computer centre of Paris Observatory (DIO). Paris Observatory is strongly involved in e-infrastructures activities covering many disciplines in astrophysics, and especially those fields where international standards are currently being defined (molecular physics, solar physics, planetary science, etc.). VO-PDC has a staff of 4 engineer with an infrastructure including computing power linked to the EGEE grid, storage facilities and servers (more information on VOPARIS Data Centre is provided in Section on Resources to be committed). In addition OBSPARIS has a strong Teaching Unit called UFE (<http://ufe.obspm.fr/>) with an extremely wide range of teaching actions at Masters Levels M1 and M2, at Doctoral Studies, at the Universities Level (L1 to L3) through

on-line

teaching targeting any type of students (even citizens), has a School Teacher Unit, a Media Unit in

Astronomy. OBSPARIS has a natural attraction role with citizens through its own media unit and organisation of many outreach events (<http://www.grandpublic.obspm.fr/Visits>). In addition OBSPARIS is linked to the “Palais de la Découverte” a very famous exhibition place for sciences. OBSPARIS is part of the new research infrastructure PSL*

(http://www.parissciencesetlettres.org/default/EN/all/about_fr/institutions_membres__1.htm) including Université Paris-Dauphine, Chemistry High School, etc.. providing in-house inter disciplinarity.

VO-PDC provides the support to the VAMDC e-infrastructure through providing an entry to the EGI grid, storage facilities, replication of services, monitoring of services, hosting the websites associated to VAMDC, hosting VAMDC databases such as BASECOL and Stark-B, hosting VAMDC access to BASECOL, Stark-B and TipTopBase. Therefore VO-PDC has a central in the WP5 of SUP@VAMDC.

Other Participants to the SUP@VAMDC project are members of the 3 departments (LUTH, LERMA, LESIA) and are involved in the VAMDC activities (the Coordinator of VAMDC and participants to VAMDC), in Virtual Observatory activities, in large scale calculations, observations, modelisation, interpretation of data, in many research fields of astrophysics, in atomic and molecular physics, in teaching activities at all levels and for all public.

In addition belonging to the LERMA Department of OBSPARIS, Dr Anne-Laure Melchior is a lecturer employed by Université Pierre et Marie Curie (UPMC). Dr Anne-Laure Melchior is the coordinator of the European EU-HOU « Hands on Universe, Europe » focusing on inquiry based science teaching methods in secondary schools and teacher training, gathering 15 European countries (Life Long Learning of the European Commission).

OBSPARIS is therefore well-suited to conduct the SUP@VAMDC project.

Role of OBSPARIS (UPMC as third party) in the project: OBSPARIS will lead the Coordination WP1, and the Outreach WP3. OBSPARIS is in charge of various tasks in the different WP. OBSPARIS will support most of the e-infrastructure (servers, storage, grid) through WP5. OBSPARIS will support the development of all Web Sites in WP1, WP2, WP3, WP4 (Regional Web Sites will be directly supported by the partners, with links to a central webpage). OBSPARIS will handle the collaboration with closer domains, in particular NIST Chemistry and Biochemistry Division. OBSPARIS will host the kick-off Meeting with all the related satellites meetings + additional meetings as indicated on pert diagrams (pert charts) and in section 2.3

Key Persons:

M. L. Dubernet, Researcher/Lecturer

Expertise: P.I. of VAMDC Project 2009-2012 (<http://www.vamdc.eu>). From 2004-2009, has been the Scientific leader of Virtual Observatory activities at Paris Observatory, activities ranging from VO output of databases, numerical simulations and software development. She has built the VOPARIS Data Centre at Paris Observatory together with Pierre Le Sidaner and has initiated the participation of the Observatory of Paris in EGI. From training, she is a theoretical molecular physicist specialist of molecular collisional processes. She is the P.I. of the BASECOL database on inelastic collisions of molecules for Astrophysics. She has been the Deputy Coordinator of the FP6-RTN network "Molecular Universe" (01/10/2004 to 30/09/2008). She has initiated the project of standardisation of the exchanges of atomic and molecular data, works in collaboration with IVOA to produce a Line Data Model, and in collaboration with NIST (Y. Ralchenko), ORNL (US), IAEA (Vienna) to create a XML schema describing atomic and molecular interactions. Her work is at the interface of physics, chemistry, astrophysics, atmospheric physics, software specification and software design.

Role in project: Coordinator of the project. In addition she will participate scientifically to all workpackages.

P. Lesidaner (DIO), Research Engineer

Expertise: Project Manager of VOPARIS Data Centre and for Vorg at Observatory of Paris. Vice Director of IT Team for Paris Observatory.

Role in project: Operational Support (WP5).

A. Shih (DIO), Research Engineer

Expertise: System Engineer, Responsible for the NGI grid node at Paris Observatory. In charge of maintenance of help-Desk RT, versioning system SVN, wiki administration.

Role in project: Infrastructure at VOPARIS Data Centre (network, storage, computing facilities, Contact with EGEE/NGI). - WP5

F. Le Petit (LUTH), Researcher/Lecturer

Expertise: VO-Theory and Grid computing.

Role in project: Support for Grid activities (WP5), Connection between VO-THEORY/IVOA and VAMDC (WP2, 4)

E. Roueff (LUTH), Researcher/Lecturer

Expertise: Atomic and Molecular standards.

Role in project: Expert on molecular Physics (WP2, WP3).

Jacques Le Bourlot (LUTH), Researcher/Lecturer

Expertise: Modeling of Interstellar Medium, Involved in Master 2 and Doctoral Studies.

Role in project: Connection with Master 2 studies and Doctoral School.

Didier Pelat (LUTH), Researcher/Lecturer

Expertise: Stellar Evolution, Involved in Master 2 and Doctoral Studies.

Role in project: Connection with Master 2 studies and Doctoral School.

Andreas Zech (LUTH), Researcher/Lecturer

Expertise: High Energy Astrophysics, Head of the Master 1 curriculum at OBSPARIS.

Role in project: Connection to Master 1 Students.

Christian Balanca (LERMA), University Lecturer

Expertise: Atomic and Molecular Calculations for collisions. In particular involved with the School Teachers Teaching Unit of UFE.

Role in project: Link to Students at Master Level and with connection to Schools (WP3).

Anne-Laure Melchior (LERMA, UPMC), University Lecturer from UPMC

Expertise: Research in galaxy formation and evolution, observations and simulations, dark matter and variable stars. She teaches physics, mathematical tools as well as methodology to licence students. She was co-organiser and co-editor of the proceedings of the international Global-HOU conference held in Paris in 2002. She is co-founder and presently vice-president of the F-HOU Association "F-HOU, L'Univers à Portée de Main". She has co-coordinated two previous European EU-HOU projects, Minerva (2004-2006) and Comenius (2008-2010), which were awarded in 2009 the silver medal of the European Commission in the field of education and training through new technologies; she is co-coordinating a new Comenius one (2010-2012), all focusing on inquiry based science teaching methods in secondary schools and teacher training. She was member of the French Steering Committee for the International Year

of Astronomy 2009 (education panel). She is organising recurrent EU-HOU teacher training sessions at the French and European levels.

Role in the project: Synergies between the EU-HOU project and VAMDC e-infrastructure (WP3).

Audrey Delsanti (LESIA), Researcher/Lecturer

Expertise: Research in Space Plasmas. Head of the On-line « Diplôme d'Université » AMC (<http://ufe.obspm.fr/rubrique102.html>) of L1 Level.

Role in Project: Contact with the students following these « DU », very often citizen-scientists (WP3).

Alain Doressoundiram (LESIA), Researcher/Lecturer

Expertise: Stellar Physics – In charge of the « project section » for the Schools/High School Teachers.

Role in project: Connection with schools, high schools (before University) for projects within VAMDC (WP3).

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