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Research

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**Observatoire de Paris - PSL Centre de recherche en astronomie et
astrophysique**

All competitive projects in astrophysics conducted in PSL are used as a support for the Graduate Program.

The scientific projects on which the training offer is based are all competitive projects in astrophysics conducted in PSL will be used as a support for the training.

AStroParis' students will learn from their participation to :

- individual or team projects with fundings from the French National Research Agency (ANR), from the European Research Council (ERC), from the Domaine d'intérêt majeur en astrophysique et conditions d'apparition de la vie (DIM ACAV) ; projects run by members of the University Paris-Sciences-Lettres ;
- team projects identified as promising and innovative ;
- projects supported as scientific priorities by PSL laboratories or federative actions of the Paris Observatory ;
- projects of the Interdisciplinary and Strategic Research Initiatives (IRIS) Origins and Conditions for the Emergence of Life (OCAV) ;
- projects hosted by the space pole C²ERES ;
- large space-borne or ground-based projects of the discipline led by space agencies and large observatories.

Given the size of the Paris Observatory, which represents a third of the forces of astrophysics in France, these projects cover a vast range of astrophysical research, from theoretical research to the realization of projects including R&D, instrumentation, observation, modeling, numerical analysis...

Laboratories	Teams involved
APC	high energy, cosmology, gravitation
GEPI	all
LERMA	all
LESIA	all
LMD	planetology
LPENS	astrophysics
LPP	space plasmas
LUTH	all
SYRTE	all

Themes

Research

Themes	APC	GEPI	IMCCE	LERMA	LESIA	LMD	LPENS	LPP	LUTH	SYRTE
Sun, plasma										
Planets, exoplanets										
Stars										
Interstellar medium										
Galaxies										
Cosmology										
High energy astrophysics										
Gravitation										
Major theme of the unit			Other theme of the unit							

Methodological skills

Technological and methodological challenges	APC	GEPI	IMCCE	LERMA	LESIA	LMD	LPENS	LPP	LUTH	SYRTE	C ² ERES
Project management											
Observation											
Data analysis											
HPDA											
Numerical simulation											
HPC											
Artificial intelligence											
Instrumentation											
System analysis											
Instrumental design											
R&D											
Quality assurance											
Technological innovation											
Valorization											
Strong skill of the unit		Strong skill in one or two teams				Skill of the unit					

Partners

- IRIS OCAV (astrophysics, biology, chemistry) : ASroParis is a partner in the program " conditions d'apparition de la vie / life appearance conditions" component of IRIS OCAV. This program extends ASroParis' skills in astrophysics towards exobiology, a booming discipline that will be irrigated by many future astrophysics projects.

- IRIS Data Science, Science Data : Convergence between AStroParis and this IRIS occurs through projects in the discipline that produce or use large amounts of data.
- PSL postdoctoral fellowships in astrophysics at Paris Observatory.
- All other graduate programs, for interdisciplinarity.

Selection of the projects

All competitive projects in astrophysics conducted in PSL can be used as a support for the training. The call of the projects is made each year by the board of AstroParis. Each year, the board of AStroParis reports its action to its supervisory authorities (PSL, scientific council of the Observatory of Paris...).