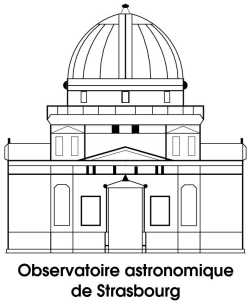
Inspiring Future Scientists: a first Work Experience for Middle School Students

André Schaaff, Sébastien Derriere, Sandrine Langenbacher, Pierre-Alain Duc and all the volunteers who participate

Edu IG Session 11 June 2026

IVOA Strasbourg, 8-12/06/2026



Internships

- The Strasbourg Observatory welcomes students every year within its two teams, **GALHECOS** and **CDS**, offering a wide range of internship projects (often related at IVOA) lasting from **4 to 24 weeks**.

- The Observatory hosts also **students in the final year of lower secondary education (French "3ème", typically aged 14–15)** through one-week job-shadowing placements
- In France this internship is called "Stage d'observation" as the aim is to observe how people work (and not the sky !)
- => we will focus on these internships

How it works ?

- **Initially**, the program was quite **informal**. Students were welcomed on an individual basis and assigned a mentor, who coordinated with colleagues to introduce them to different activities and explain their day-to-day responsibilities.

- Since 10 years it is **now** a **structured program**, with a dedicated week of activities and an application form that students must complete to apply (like other candidates)
- We offer one internship week in December and another in February, each welcoming up to six students with a balanced gender representation.

Typical content of a week

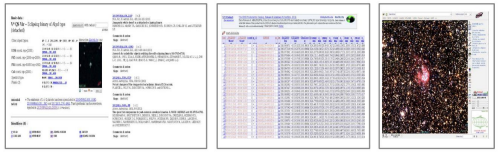
Stage d'observation - 2/2026

	09/02 Lundi	10/02 Mardi	11/02 Mercredi	12/02 Jeudi	13/02 Vendredi
08:45–09:00	08:45 - accueil bâtiment Coupole				
09:00–09:15	**Présentation de l'Observatoire**	**Le paradoxe de Fermi**	**Introduction aux trous noirs**	**Départ Séance**	**ISU et discussion**
09:15–09:30	Pierre-Alain Duc	Laurent Cambresy		**Planétarium**	**avec des étudiant(e)s**
09:30–09:45			Jérôme Novak		
09:45–10:00	**Visite du site**	**jeu de plateau COSIM**	Pause	Véronique Trimbour	Bertrand Goldman
10:00–10:15	Pierre-Alain Duc		**Chili,**	**Retour du Planétarium**	**Café**
10:15–10:30	Pause	**Parcours d'orientation**	**terre des observatoires astronomiques**	Pause	**de l'Observatoire**
10:30–10:45	**Présentation du CDS**			**T.P. Aladin (partie 2)**	**Séminaire**
10:45–11:00	Equipe et services	Esther Collas	Laurent Chemin	**et métier de documentaliste**	**de l'Observatoire**
11:00–11:15	André Schaaff	Pause	**Rencontre avec un doctorant**	Mihaela Buga	Amphitheatre
11:15–11:30	**T.P. Aladin et métier de documentaliste (partie 1)**	**Simulations numériques**	**études, recherches**	**La dynamique des galaxies**	
11:30–11:45	Katia van Der Woerd	**en astrophysique**		**et la matière noire**	**Débriefing du séminaire**
11:45–12:00		Dominique Aubert	Yaël Moussouni	Benoit Famaey	Sébastien Derriere
12:00–12:30					
12:30–13:00					
13:00–13:30					
13:30–13:45	Art et Science	**Le métier d'informaticien**	**Projets européens et SVOM**	**La communication**	**Discussion entre les élèves**
13:45–14:00	Mihaela Buga	**et T.P.**	Laurent Michel	Sébastien Derriere	**préparation du rapport de stage**
14:00–14:15		Ivan Brossard			Les élèves
14:15–14:30	Pause				Pause
14:30–14:45	**Métier Administrateur et gestionnaire de**		**Visite du 2T36**	**Mes recherches**	**Le globe de Coronelli**
14:45–15:00	**Parc informatique**	Pause		**et discussion**	
15:00–15:15		**Le métier de Professeur(e)**	Patrick Guillout	Alexandra Lorange	Sébastien Derriere
15:15–15:30	**T.P. d'installation d'un serveur Web**	**entre maths, physique, étoiles et galaxie**	Pause	Pause	**Quiz et évaluation du stage**
15:30–15:45		Ariane Lançon	**R&D**	**Femmes en Science**	Les élèves
15:45–16:00	Thomas Keller et Patrick Hoffmann	**Rencontre avec une doctorante**	**IA & Astro**	**Parcours**	**correction du Quiz**
16:00–16:15		**études, recherches**	**évolutions technologiques**	**Association**	**Débriefing de la semaine**
16:15–16:30		Claire Guillaume	André Schaaff	Anaïs Oberto	Bureau du directeur
16:30–17:00					Fin du stage - bonnes

Les services du CDS

Publications des chercheurs

Traitement des données



Outils au service de la recherche

Problème n°5 : comparaison images en radio / images en optique

Chargez dans votre "pile" Aladin les images en optique DSS, SDSS et PanSTARRS.
Chargez l'image radio NVSS.
Chargez SIMBAD.

Pour chacune des positions ci-dessous, répondez aux questions :
Qu'y a-t-il dans SIMBAD à cette position?
Est-ce qu'il y a plusieurs objets dans SIMBAD qui pourraient être réunis en un seul?

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2) 16 04 27.36 +60 50 55.3
3) 16 28 08.57 +32 32 52.6

Various activities…

- They learn
  - to build a small program
  - to install an Operating System like Linux
  - to read a research paper
  - to play with Aladin Lite and that HiPS is a VO standard
  - about the studies to follow to become astronomer, developper, documentalist, etc.

…a large scope from data to VO

Social part

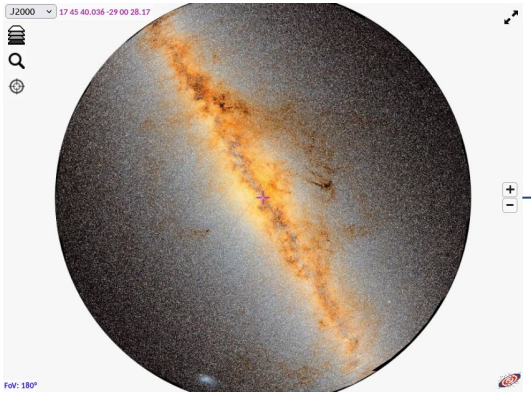
- Planetarium session
- Friday's seminar (mainly in English)
- Christmas Lunch in December
- they can also have Lunch in the dedicated room for the personal and by the way discuss

Planetarium session

like you today’s evening !

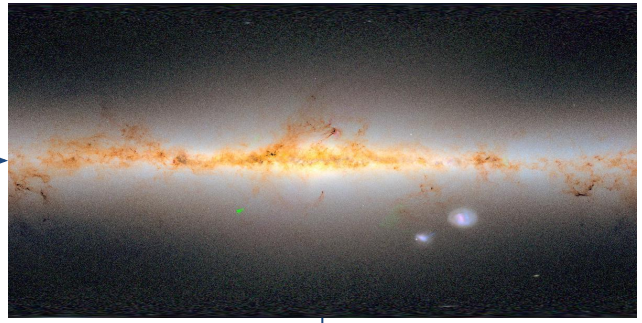
From HiPS to paper globes

Take any HiPS



hips2fits

plate carrée PNG



custom script

paper globes

https://astro.unistra.fr/en/tout-public/build-your-own-paper-globes/

Conclusion

- An **experience** involving a large part of the Observatory people
- an overview of the **everyday work** of astronomers (seniors and students), documentalists, Computer Scientists (including interns) and administratives

- It’s also a nice experience for us to **explain our work** to young people

- At the AI age it’s also important to show them that **human** are feeding databases and taking care of the **quality** of the **results** provided to **astronomers** !

next session in December 2026