

« ASTRO À L'ÉCOLE » - SHARING ASTRONOMY AND ASTROPHYSICS AT SECONDARY SCHOOL.

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Abstract. « Sciences à l'École » (SaE) is a governmental programme that depends on the ministry of education and on the ministry of higher education and research. It aims at providing resources and educational material for teachers, to enhance the scientific culture and teaching. « ASTRO à l'École » (AaE) is part of the numerous actions led by SaE. Through this operation, SaE lends sets of astronomical material that includes telescopes to selected high schools. In addition to this logistic support, AaE conducts various projects based on the requests of the teachers (astronomical observations, visits, posters, astrophotography). Since 2020, AaE organises annually an astronomical contest which awards the group of pupils that renders the best astronomical picture. Teachers training is also a key action of AaE. In 2024, AaE took part in the spring university of the EAFC (École Académique de la Formation Continue) of Nice where it led a workshop on astronomy and astrophysics for teachers.

Keywords: Education, astronomy, astrophysics, secondary school, sciences at school, « Sciences à l'École »

1 Introduction

« Sciences à l'École » (SaE) is a governmental programme that depends on the ministry of education and on the ministry of higher education and research, hosted by the Observatory of Paris. This programme leads two kinds of actions, national and international contests and equipment plans. It is designed to enhance scientific projects in secondary schools.

Among its contests, SaE coorganises the national CGénial contest and selects the national French delegations that are sent to represent France at the International Chemistry, Earth Sciences and Physics Olympiads (ICHO, IESO and IPHO).

The equipment plans are six autonomous actions of SaE. « ASTRO à l'École » (AaE) is one of them. Its main objective is to give a logistic support to selected teachers by lending them sets of astronomical material such as telescopes, cameras and any needed accessories. The teachers training is also a main focus of AaE. Many scientific projects are set up every year, depending on the teachers' requests.

2 General presentation of « ASTRO à l'École »

AaE gathers around 80 sets of material evenly distributed in France in 23 academies. Approximately 2600 students benefit from this operation every year. A scientific committee composed of researchers, teachers and inspectors shares its expertise to guide the projects and to select the schools that will be lent a set of material.

The equipment plan leads several projects some of which were presented at the SF2A workshop. Upon request from the teachers, AaE supports scientific projects in secondary schools such as the realisation of a posters exposition, visits of the Observatory of Paris or online conferences.

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3 Selected projects led by « ASTRO à l'École »

3.1 Astronomical contest

Every year since 2020, AaE organises an astronomical contest. Any class can take part in the contest by providing two pictures. One should be an image of an astronomical object that comes along with a scientific interpretation. The other picture remains perfectly free, so that any inspiring idea linked to astronomy can be displayed (such as paintings, videos, drawing, cartoons, ...). For the year 2024, a theme was added to the contest: "Women in sciences". The aim for the teams was to illustrate the theme with their second picture.

This action is also a way to offer a formation in astrophotography to the teachers which is held online. The teachers and their class had the opportunity to use the IRiS telescope remotely.

The poster below gathers the images produced by the team during the previous edition of the contest. The results of the edition of 2024 can be found with the following link <https://www.sciencesalecole.org/retour-sur-le-concours-dimages-astronomiques-2024-les-productions-des-equipes/>.



3.2 Teachers training

Training teachers is a key objective for the educational system and SaE proposes some actions to support this. Internships at CERN in Geneva and at the GANIL in Caen are organised yearly to train the teachers on particle and nuclear physics. This is part of another equipment plan labelled « COSMOS à l'École ».

In addition to the online conferences, AaE took part to the spring university of the EAFC (École Académique de la Formation Continue) of Nice in april 2024. Two workshops on stellar formation and evolution were organised together with a posters exposition. The flyer of this activity is showed in the second picture and more can be found on the website of the EAFC: <https://www.ac-nice.fr/universite-de-printemps>.

Sciences à l'École

ACADÉMIE DE NICE
Liberté
Égalité
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Sciences et Éducation

Université de Printemps 23 avril 2024

Sciences à l'École

EXPERTS à l'École
Éducation - Gendarmerie
Les disciplines et enjeux de la criminalistique, pour transmettre auprès de la jeunesse les valeurs de la République au travers de la pratique et de la réflexion scientifiques. **2nd degré**

MÉTÉO à l'École
Événements météo remarquables en 2023
Des données météorologiques au service de la construction de la connaissance pour rassurer face à l'éco-anxiété de nos élèves et leur donner les éléments objectifs pour fonder leur propre choix. **1er et 2nd degrés**

ASTRO à l'École
Vie et mort des étoiles
La démarche scientifique au service de la compréhension de l'origine des étoiles et des planètes en s'appuyant sur les dernières découvertes en astrophysique. **2nd degré**

23 AVRIL 09.00 - 16.30
Centre international de Valbonne

PROGRAMME

- Conférences et table ronde
- Atelier « EXPERTS à l'École »
- Atelier « MÉTÉO à l'École »
- Atelier « ASTRO à l'École »

Plus d'information
[Cliquez ici](https://www.sciencesalecole.org/)
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06560 Valbonne

<https://www.sciencesalecole.org/>

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4 Conclusions

« Sciences à l'École » is a general public programme that brings science at secondary school. Its action devoted to astronomy and astrophysics, « ASTRO à l'École », leads several activities and projects, both for teachers and students. The main project is to lend sets of astronomical material to schools, but the programme does not limit itself to this logistic support. If you want to discover more information about our actions, you can visit our website: <https://www.sciencesalecole.org/astro-a-lecole/>.

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