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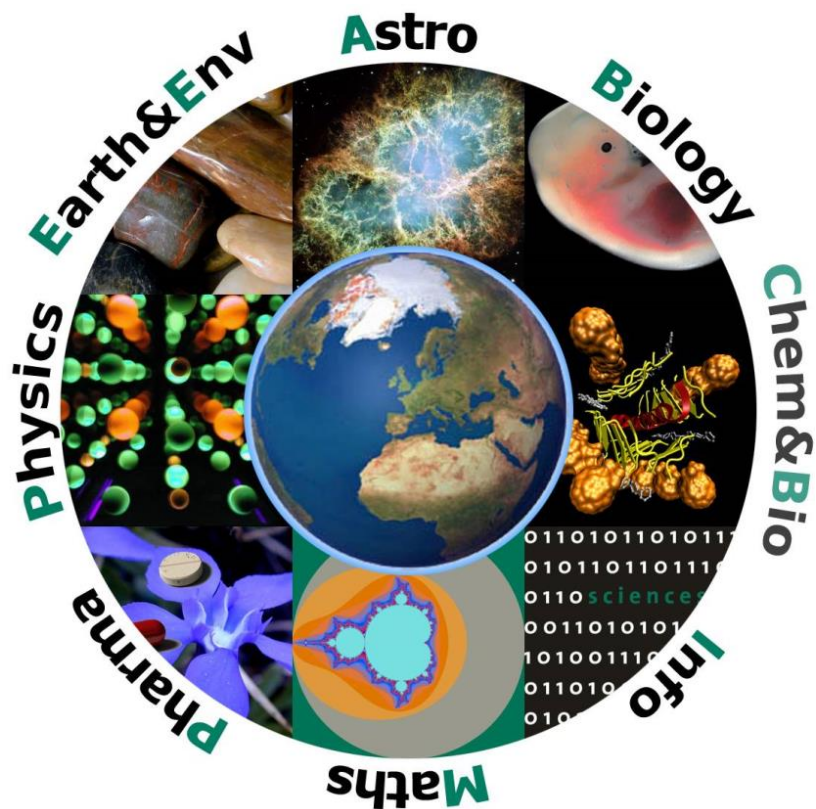


UNIVERSITÉ  
DE GENÈVE  
FACULTY OF SCIENCE

Sciences

# Studying Astrophysics

2025 - 2026



## IMPORTANT DATES

### **AUTUMN SEMESTER 2025 – 2026**

<i>Start of the courses</i>	<i>Monday 15 September 2025</i>
<i>Astro student welcome</i>	<i>Wednesday 16 September 2025</i>
<i>Dies academicus</i>	<i>Friday 10 Oct 2025</i>
<i>Course registration</i>	<i>Tuesday 14 → Monday 20 Oct 2025</i>
<i>Exam registration</i>	<i>Tuesday 28 Oct → Monday 3 Nov 2025</i>
<i>Graduation ceremony</i>	<i>Friday 14 November 2025</i>
<i>End of exam cancellation</i>	<i>Thursday 4 December 2025</i>
<i>End of the courses</i>	<i>Friday 19 December 2025</i>
<i>Exam period start</i>	<i>Monday 19 January 2026</i>
<i>Exam period end</i>	<i>Friday 6 February 2026</i>

### **SPRING SEMESTER 2026**

<i>Start of the courses</i>	<i>Monday 16 February 2026</i>
<i>Application for Master of Excellence Scholarships</i>	<i>Deadline: 28 February 2026</i>
<i>Course registration</i>	<i>Tuesday 3 → Monday 9 March 2026</i>
<i>Exam registration</i>	<i>Tuesday 17 → Monday 23 March 2026</i>
<i>End of exam cancellation</i>	<i>Thursday 14 May 2026</i>
<i>End of the courses</i>	<i>Friday 29 May 2026</i>
<i>Exam period start</i>	<i>Monday 8 June 2026</i>
<i>Exam period end</i>	<i>Friday 26 June 2026</i>
<i>Exam registration</i>	<i>Tuesday 14 → Monday 20 July 2026</i>
<i>End of exam cancellation</i>	<i>Thursday 13 August 2026</i>
<i>Exam period start</i>	<i>Monday 24 August 2026</i>
<i>Exam period end</i>	<i>Friday 4 September 2026</i>

### **HOLIDAYS**

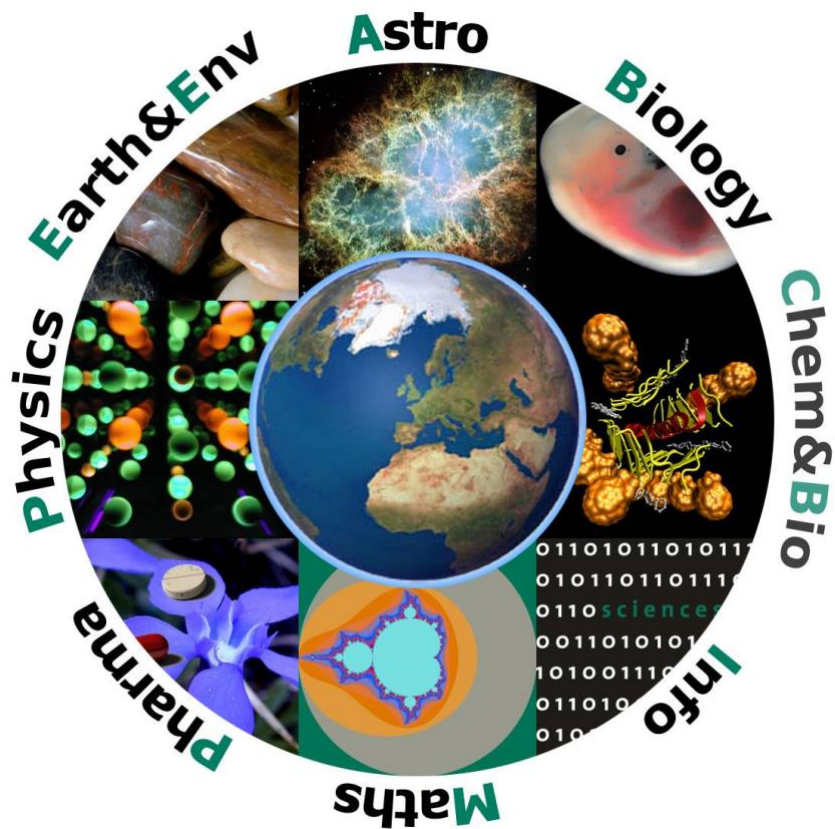
<i>Easter vacation</i>	<i>Thursday 2 April → Monday 13 April 2026</i>
<i>Labor Day</i>	<i>Friday 1 May 2026</i>
<i>Ascension Day</i>	<i>Thursday 14 May 2026</i>
<i>Whit Monday</i>	<i>Monday 25 May 2026</i>
<i>« Jeûne Genevois »</i>	<i>Thursday 10 September 2026</i>

### **AUTUMN SEMESTER 2025 – 2026    Monday 14 September 2026**

See here:

<http://www.unige.ch/sciences/en/informationspratiques/dates/>

# General Information



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UNIVERSITÉ  
DE GENÈVE

FACULTY OF SCIENCE

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## General information

- Faculty of Science

## Studying Astrophysics

- Department of Astronomy
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- Common Programme and Specialisations
- Course Schedule
- Course list and description

## PREAMBLE

The Faculty of Science of the University of Geneva is known worldwide for its research work. The Nobel Prize in Physics in 2019 for the discovery of the first planet outside the solar system, a second Fields Medal, considered the equivalent of the Nobel Prize in mathematics, obtained in 2022, the achievements in quantum teleportation, and studies of the genetics of embryonic development are just a few examples of intense activity in a wide range of fields: astronomy, biology, chemistry, computer science, mathematics, physics, pharmaceutical sciences, and Earth and environmental sciences. Another important mission of the Faculty of Science is teaching and training. These missions are strongly linked, with teachers expected to be at the forefront of research at the university level.

This document consists of two parts: a first "Faculty" part, containing information on the organization of the University and the Faculty of Science, as well as useful addresses and various practical information. The second part is the student guide, which gives practical information (schedules, course information, etc.) specific to your sector. A reminder of the important dates as well as the site plan of the main buildings is included on the inside pages of the cover. It is our hope that students will quickly feel at home in this Faculty, which delivers the broadest diversity of teaching and titles of the University.

Each branch (Biology, Chemistry, Biochemistry, Computer Sciences/informatics, Mathematics, Physics, Earth and Environmental Sciences, and Pharmaceutical Sciences) is under the responsibility of a subdivision called Section (except for IT, which is a department). In addition, Earth and Environmental Sciences, and Astronomy are organized in Departments.

As a student, you are primarily interested in your training. Nevertheless, we encourage you to participate equally in the life of the institution, whether it is to elect members representing you at the various councils or to be part of it. It should be noted that there are councils at all levels, bringing together faculty representatives, teaching and research associates, students, and administrative and technical staff:

- University Assembly
- Participatory Council of the Faculty
- Section/Department Council

You are also encouraged to join the student association of your sector.

Finally, I would like to wish the students success in their studies, which they will undoubtedly find demanding but exciting, as sciences are. In case of difficulties, faculty members, counsellors, and administrative services are also at your disposal.

The Dean

## THE FACULTY OF SCIENCE PRESENTS ITSELF

The University of Geneva is one of thirteen European universities, and the only Swiss university, founding member of the European League of Research Universities. Recently, the University entered the very closed club of the hundred best academic institutions in the world according to the Shanghai ranking. With the University and the ETH of Zurich, the researchers of the University of Geneva also lead in securing competitive research grants from the National Science Foundation. In addition, the University of Geneva offers the opportunity to become science teachers (one of only two Swiss universities with a teaching and research team at the faculty level). Finally, our University is the most international, both in the diversity of its students and teachers.

The Faculty of Science is one of the spearheads of this success. It includes more than 2850 students (49% of whom are female), 190 professors, 1120 teaching and research staff (teaching assistants research masters, lecturers, assistant professors, full professors etc.) and some 525 administrative and technical staff. The Faculty comprises eight subdivisions corresponding to the fields of research and teaching: six Sections and two Departments directly attached to the Faculty. An attached Section or Department often also has its own academic advisor.

The Faculty of Science awards *bachelor*, *master*, and *doctorate* (PhD) degrees in the European Higher Education Area and Bologna Process. This process harmonizes the titles and corresponding study durations. It also introduces a system of transferable credits (ECTS) that allows a European university to recognize full or partial studies at another European university. The training offer of the Faculty of Science is extensive, both in terms of basic and advanced training. The teaching is divided into more than 900 courses, practical work and seminars. Students have access to more than 50 different titles (bachelor, master, bi-disciplinary master's, doctorate, as well as complementary certificates and Master of Advanced Studies (MAS), including a master's degree in secondary education).

At the Faculty of Science, research occupies a very important place. Approximately 600 students prepare a doctoral thesis, and more than 120 doctoral titles being delivered annually. This research results in more than 1000 scientific publications per year. Regarding teaching and research, the Faculty of Science maintains collaborations with numerous regional, national and international institutions. The Faculty of Science has also developed links with organizations such as CERN, WHO, the European Life Sciences Organisation, and the European Space Agency.

Finally, the annual budget of the Faculty of Science is about 150 million francs. The value of scientific equipment is around 135 millions. We should also mention the importance of funds from sources other than the Canton of Geneva, such as the Swiss National Science Foundation, European funds or industry. These resources now make up more than 50 million francs, or 33% of the budget of the Faculty of Science.

## ADDRESSES

### FACULTÉ DES SCIENCES

30, quai Ernest-Ansermet, 1211 Genève 4  
T 022 379 66 52 – F 022 379 66 98

### DEAN'S OFFICE AND ADMINISTRATION

#### Dean

Prof. Costanza BONADONNA, Sciences II, office 4-506  
T 022 379 66 51 and 379 66 52

#### Vice-deans

Professor Enrica BORDIGNON Sciences II, 220 T 022 379 65 39	Professor Christoph RENNER Ecole de physique, 010C T 022 379 35 44	Professor Jean-Luc WOLFENDER CMU, B06.1716.a T 022 379 33 85	Professor Jonas LATT Secrétariat des étudiants T 022 379 66 62
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#### Administrator

M. Bernard SCHALLER, Sciences III, office 4-504  
T 022 379 32 30

### SECTION PRESIDENTS AND DEPARTMENT DIRECTORS

#### Biology Section:

Prof. Guillaume SALBREUX  
Boulevard d'Yvoy 4, 1205 Genève 4  
T 022 379 67 55

#### Chemistry and biochemistry Section:

Prof. Aurélien ROUX  
Quai Ernest-Ansermet 30, 1205 Genève 4  
T 022 379 35 32

#### Mathematics Section:

Prof. Rinat KASHAEV  
Rue du Conseil-Général 7, 1211 Genève 4  
T 022 379 11 48

#### Physics Section:

Prof. Antonio RIOTTO  
Quai Ernest-Ansermet 24  
T 022 379 63 10

#### Pharmaceutical sciences Section:

Prof. Gerrit BORCHARD  
Rue Michel-Servet 1, 1211 Genève 4  
T 022 379 69 45

#### Earth and environmental sciences Section:

Prof. Martin PATEL  
Boulevard Carl-Vogt 66, 1205 Genève  
T 022 379 06 58

#### Department of Astronomy:

Prof. Corinne CHARBONNEL  
Chemin Pegasi 51, 1290 Versoix  
T 022 379 24 52

#### Department of Informatics:

Prof. Roland BOUFFANAIS  
Route de Drize 7, 1227 Carouge  
T 022 379 07 26



## QUESTIONS?

### Student Secretariat

The student secretariat is located on the ground floor of building Sciences III, office 0003. The secretariat manages student files, receives examinations, sets examination schedules, submits diploma request and change of address forms, issues test reports after examination sessions.

T 022 379 66 61/62/63 - F 022 379 67 16 - [Secretariat-etudiants-sciences@unige.ch](mailto:Secretariat-etudiants-sciences@unige.ch)

### Faculty Advisor

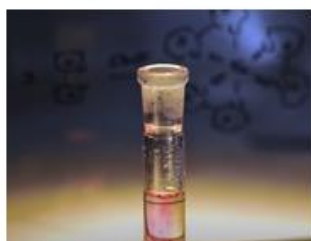
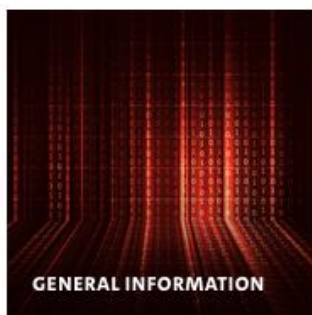
Dr. Xavier CHILLIER is available all year by appointment (registration on his door) in the 0001 office on the ground floor of the building Sciences III. In addition, during class periods, a permanence (without appointment) is set up on Monday between 17-18h and Tuesday from 10-12h.

The student counsellors are open to all students. They propose a personalized orientation on the paths of training offered by the Faculty of Science, present the study plans and the subjects, discuss a possible reorientation. In case of any difficulty in the studies (school, material, health, language, comprehension or other), it is advisable to inform without delay the student advisor/counsellor.

T 022 379 67 15 – [Conseiller-etudes-sciences@unige.ch](mailto:Conseiller-etudes-sciences@unige.ch)

You will find all the answers to your questions on the "Students / Doctoral students" pages at <https://www.unige.ch/sciences/en/secretariatetudiants/>

#### Students / PhD candidates





## STRUCTURE OF THE TEACHING STAFF

### PROFESSORS

**Professeur ordinaire (PO)**

teaching + research+ direction

**Professeur associé (PAS)**

teaching + research+ management

**Professeur titulaire (PT)**

teaching + research  
main activity outside the University

**Professeur titulaire "ancienne loi" (PTI)**

teaching + research

**Professeur assistant (PAST)**

teaching + research

**Professeur invité (PI)**

teaching + research  
maximum stay one year

### RESEARCH AND TEACHING COLLABORATORS

**Maître d'enseignement et de recherche (MER)**

teaching + research

**Chargé de cours (CC)**

engaged for particular teaching  
part time

**Privat-docent (PD)**

teaching, unpaid  
part time

**Chargé d'enseignement (CE)**

teaching + research in some cases

**Conseiller aux études (CET)**

student counseling

**Collaborateur scientifique (COLS) I et II**

research

**Maître-assistant (MA)**

teaching + research  
PhD with experience in research

**Post-doctorant (PDOC)**

assisting students + research  
PhD

**Assistant (AS) A1 et A2**

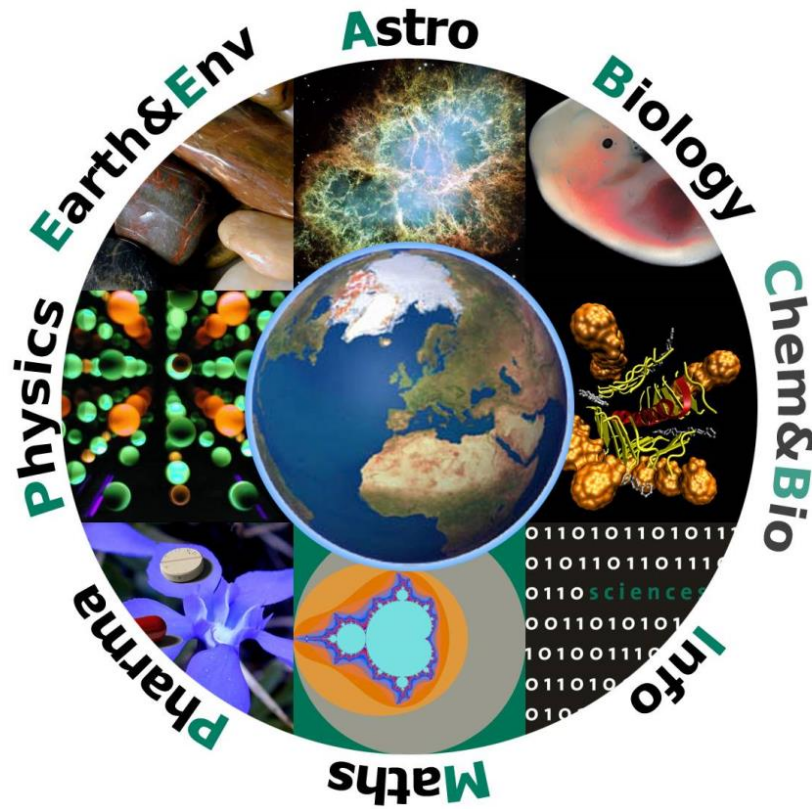
assisting students + research  
Ongoing PhD study

**Auxiliaire de recherche et d'enseignement (ARE)**

part time assistant  
student in training



# Studying Astrophysics



**UNIVERSITÉ  
DE GENÈVE**

**FACULTY OF SCIENCE**  
Department of Astronomy

## Department of Astronomy

The Department of Astronomy of the University of Geneva is located on two sites of the town of Versoix.



**The main site is the Geneva Observatory at Sauverny/Versoix**, chemin Pegasi 51, which also hosts the Laboratory of Astrophysics of the EPFL.

(Chemin Pegasi 51b for the Astrotech building).

**The second site is located at Ecogia/Versoix**, chemin d'Ecogia 16, hosting the ISDC (Integral Science Data Centre), and a large activity related to space missions and ground-based projects.



The Astronomy Department of the Geneva University is located on two sites of the town of Versoix. The main site is the Geneva Observatory at Sauverny/Versoix, which also hosts the Laboratory of Astrophysics of the EPFL. The second site is located at Ecogia/Versoix, hosting the ISDC (Integral Science Data Center), the Space projects and the “Extreme Universe” research group.

About 180 persons are employed on the two sites of Sauverny and Ecogia, including scientists, post-doctoral researchers, PhD candidates, technical staff (computer and electronics specialists, mechanics, etc.), and administrative staff and librarian.

The Department of Astronomy manages a permanent astronomical observation station: a 1.2m telescope on the site of La Silla (ESO, Chile). Astronomers actively participate as well to large consortia of other telescopes: at St-Michel (Observatory of Haute Provence, OHP, France), La Palma (Canary Islands, Spain), etc. Our astronomers also benefit access to exceptional instruments made available as part of the Swiss participation in the ESO European Southern Observatory. In November 2018, we inaugurated Telesto, our new telescope for Science, Teaching and Outreach, located in the AstroDome on the site of Sauverny.



ESO site, La Silla, Chile



Observatory Haute-Provence, France



La Palma Canary Islands, Spain

## Research Groups and Projects Overview

Research in the Department of Astronomy includes four main themes: Exoplanetary systems, Stars formation & evolution, Galaxies & Universe, Extreme Universe. It is based on, and combines, different approaches, including observations covering the entire electromagnetic spectrum (using ground-based and space-borne telescopes), theoretical work, simulations, modelling, data analysis, and instrumentation.

The Department is involved in many national and international projects for the construction and exploitation of new instruments and satellites, for data analysis, observational surveys, and wide diversity of other international collaborations.

On the Department webpages an overview of the main activities of the research groups and projects is available:

<https://www.unige.ch/sciences/astro/en/research/>

<https://www.unige.ch/sciences/astro/en/projects>

- **Exoplanetary Systems**

Prof. Francesco PEPE

Prof. Stéphane UDRY

Prof. Emeline BOLMONT

Prof. François BOUCHY

Prof. Vincent BOURRIER

Prof. Xavier DUMUSQUE

Prof. David EHRENREICH

Prof. Adrien LELEU

Prof. Monika LENDL

Prof. Christophe LOVIS

Prof. Michel MAYOR (Emeritus), *honorary Professor, Nobel Prize*

Prof. Damien SÉGRANSAN

Dr Julia VENTURINI

- **Stars formation & Evolution**

Prof. Corinne CHARBONNEL

Prof. Sylvia EKSTRÖM

Prof. Anastasios FRAGKOS

Dr Marc AUDARD

Dr Patrick EGGENBERGER

Dr Laurent EYER

- **Galaxies & Universe**

Prof. Daniel SCHAEERER

Prof. Pascal OESCH

Prof. Anne VERHAMME

Dr Miroslava DESSAUGES

- **Extreme Universe**

Prof. Stéphane PALTANI

Prof. Roland WALTER

Prof. Claudio RICCI

Prof. Melanie HABOUZIT

Dr Dominique ECKERT

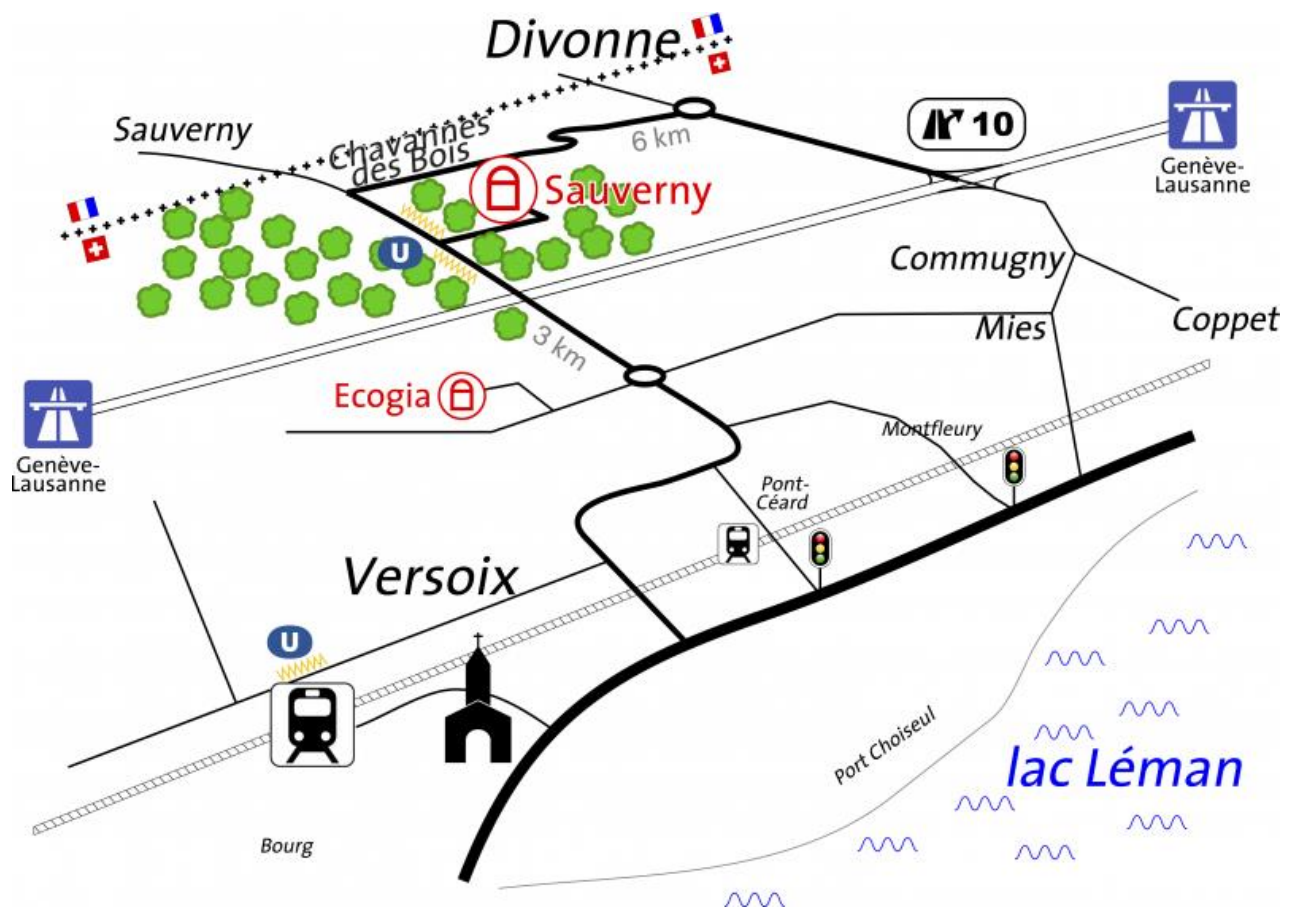
Dr Nicolas PRODUIT



## Quick facts

- Telephone number of the reception of the Department:  
**Site of Sauverny:** +41 (0) 22 379 22 00 - **Monday to Friday (8:30 - 12:00)**  
**Site of Ecogia:** +41 (0) 22 379 21 00 - **Monday to Friday (8:30 - 12:00 + Tuesday 13:30-17:30)**
- Web address: <https://www.unige.ch/sciences/astro/en/>
- Postal address: Département d'astronomie de l'Université de Genève
  - Site of Sauverny : chemin Pegasi 51, 1290 Versoix (e-mail address: [reception-obs@unige.ch](mailto:reception-obs@unige.ch))
  - Site of Ecogia : chemin d'Ecogia 16, 1290 Versoix (e-mail address: [Windiann.Baker@unige.ch](mailto:Windiann.Baker@unige.ch))

## Location of the institutes: Sauverny and Ecogia



## How to get there (TPG bus, taxi, private transportation)

Location **map** (both sites): <https://www.unige.ch/sciences/astro/en/contacts/contact-observatoire/>

There is public transportation (trains and buses) to reach the institute of Sauverny located in the woods!

### Using public transportation TPG:

The «Tout Genève» (all Geneva) ticket entitles you to use all the TPG lines (regional train CFF, tram, trolleybus, bus and even “Mouettes” (ferry boats) for one hour (60 minutes) from the time of purchase. The whole system uses the same tickets <https://www.tpg.ch/en>

From Cornavin main train station (center of Geneva city): Platform 1 regional train: Geneva – Versoix Station, every 15 minutes during daytime; from Versoix take the Bus “55” direction Chavannes:

- Bus stop “Ecogia”; then 5 minutes’ walk to join the institute of Ecogia.
- Bus stop “Observatoire”; then 10 minutes’ walk to join the site of Sauverny.
- Bus “50” also possible but takes a longer route: check the line through: <https://www.tpg.ch>

More information available here: <https://www.tpg.ch/en>

**By taxi:** in the Versoix area: “Taxi Too Blu” +41 (0) 79 22 44 55 4

**By private transport:** At both sites of Sauverny and Ecogia\* there are parking spaces for cars, motorcycles, bicycles. (\*Paid parking after a certain period of time for cars)

New: 6 e-bikes (in total) are now available at both sites Sauverny & Ecogia in order to have a connection between the two sites.

## Internal organisation

**Cafeteria:** The cafeteria of the observatory is located on the ground floor of the main building at the Sauverny site.

From Monday to Friday, you may choose between either two daily meals, one vegetarian and one traditional, or various salads. You will have to register online on the dedicated FAP page <https://fap.obsuvs3.unige.ch/> (connected to your local account of the Astronomy department) to reserve your selected menu. Different snacks can be taken at your own discretion during the day as a new "Lightspeed-Ikentoo" cash register is available for payment by debit card (except Postcard) or Twint payment and by pre-paid and reloadable virtual card (QR-Code) (payment by credit card for expenses over CHF 20.-).

Master/Bachelor/TP students will benefit from a special price for the meals of the day. There are also microwaves available to warm your own dishes.






**Library:** most journals are available online and the bookshelves are well stocked. You may also contact our librarians [Melissa.Jaquier@unige.ch](mailto:Melissa.Jaquier@unige.ch) or [Thomas.Dartiguepeyrou@unige.ch](mailto:Thomas.Dartiguepeyrou@unige.ch) should you have any question.

More info on: <https://www.unige.ch/sciences/astro/en/services/library/>

## Good to know

### What to do in case of an emergency? Important emergency numbers at a glance

#### EMERGENCY phone numbers in Switzerland:

	<a href="#"><u>118 Fire brigade, alarm center</u></a>
	<a href="#"><u>117 Police</u></a>
	<a href="#"><u>144 Ambulances, cardio mobile and doctors</u></a>
	<a href="#"><u>145 Toxicity centre</u></a>
	<a href="#"><u>112 International emergency number (Police)</u></a>

**These numbers are to be used in case of an emergency only**

#### **EMERGENCY numbers of Sauverny and Ecogia sites:**

**Sauverny site:** Reception (Morning time) Phone number direct N°: +41 (0)22 379 22 00

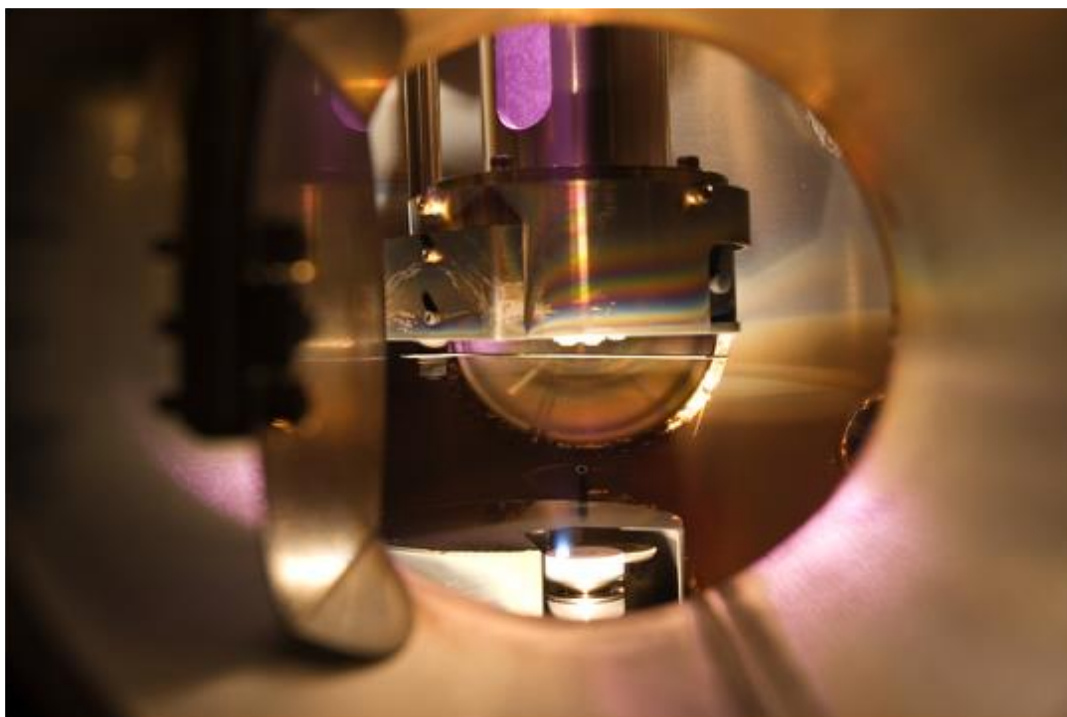
**Ecogia site:** Reception (Day time- Tues to Fri) Phone number direct N°: +41 (0)22 379 21 00

**Guardian of the Sauverny site /H24/D7:** Mrs Jailda Veraguth mobile phone: +41 (0)79 955 83 22

## BACHELOR IN PHYSICS

The Bachelor in Physics includes an introduction to Astrophysics mainly taught in French. More information on:

<https://www.unige.ch/sciences/fr/enseignements/formations/bachelors/physique/>



### DURÉE DES ÉTUDES

3 ans (6 semestres)

### LANGUE D'ENSEIGNEMENT

Français

Bonne connaissance de l'anglais recommandée.

### CONDITIONS D'IMMATRICULATION

[www.unige.ch/conditions/BA](http://www.unige.ch/conditions/BA)

### Baccalauréat universitaire / Bachelor

## LE BACHELOR EN PHYSIQUE

permet d'acquérir une solide formation dans les domaines de la mécanique classique et quantique, de l'électrodynamique, de la thermodynamique et de la mécanique statistique. Il propose également une introduction à la physique du solide, à l'astronomie et l'astrophysique, à la physique appliquée ainsi qu'à la physique des particules. Font également partie de la formation l'acquisition et le développement des outils mathématiques et informatiques utilisés en physique et dans les sciences naturelles en général. L'obtention du bachelor permet l'accès aux Masters en physique, astrophysique et bi-disciplinaire en sciences.

[www.unige.ch/sciences/physique/enseignement/bachelor](http://www.unige.ch/sciences/physique/enseignement/bachelor)

## PROGRAMME D'ÉTUDES

6 semestres (max. 10 semestres) | 180 crédits ECTS

### Enseignements 1re année

60 crédits

- Algèbre I
- Analyse I
- Méthodes mathématiques pour physiciens I
- Mécanique I
- Électrodynamique I
- Introduction à l'informatique
- Méthodes numériques pour physiciens I
- Physique macroscopique
- Laboratoires

Cours de soutien optionnel en mathématiques

### Enseignements 2e année

60 crédits

- Analyse complexe II
- Analyses II
- Mécanique II
- Électrodynamique II
- Électrodynamique III
- Physique quantique I
- Méthodes mathématiques pour physiciens II
- Calculs numériques
- Laboratoires

### Enseignements 3e année

60 crédits

- Physique quantique II
- Physique statistique
- Astronomie générale et astrophysique
- Particule et noyaux
- Physique du solide
- Optique quantique
- Cours à option
- Laboratoires

## CALENDRIER ACADÉMIQUE

[www.unige.ch/calendrier](http://www.unige.ch/calendrier)

## MOBILITÉ

Départ possible pour une université suisse ou étrangère dès l'obtention de 60 crédits. Le règlement permet d'obtenir jusqu'à 60 crédits du bachelor à l'extérieur de la Faculté. Selon les sections, on conseille aux étudiant-es d'effectuer leur programme de mobilité soit en 2e année, soit en 3e année de bachelor, pour une durée de 2 semestres. Pour toutes les destinations, l'étudiant-e doit s'assurer que les examens passés dans l'université d'accueil sont reconnus comme équivalents par la Faculté des sciences.

[www.unige.ch/exchange](http://www.unige.ch/exchange)

## DÉBOUCHÉS ACADÉMIQUES

- Master en physique, spécialisation Science et information quantiques
- Master en physique, spécialisation Physique des systèmes complexes
- Master en physique, spécialisation Physique des particules
- Master en physique, spécialisation Physique théorique
- Master en physique, spécialisation Cosmologie et astrophysique des particules
- Master en astrophysique
- Master en sciences de l'environnement | Admission sur dossier
- Master interdisciplinaire en neurosciences | Admission sur dossier
- Master bi-disciplinaire en sciences
- Master en biologie chimique | Admission sur dossier

## TAXES UNIVERSITAIRES

CHF 500.- par semestre

## INSCRIPTION

Délai d'inscription: 30 avril 2025  
(28 février 2025 pour les candidat-es soumis-es, d'après leur nationalité, à un visa selon les prescriptions de la Confédération)

[www.unige.ch/immatriculations](http://www.unige.ch/immatriculations)

## CONTACTS RELATIFS AUX ÉTUDES

### FACULTÉ DES SCIENCES

Sciences II  
30 quai Ernest-Ansermet  
1211 Genève 4

### SECRÉTARIAT AUX ÉTUDES

T. +41 (0)22 379 66 62  
[secretariat-etudiants-sciences@unige.ch](mailto:secretariat-etudiants-sciences@unige.ch)

### CONSEILLER ACADÉMIQUE

Xavier Chillier  
T. +41 (0)22 379 67 15  
[conseiller-etudes-sciences@unige.ch](mailto:conseiller-etudes-sciences@unige.ch)

### SECTION DE PHYSIQUE

Martin Kunz  
T. +41 (0)22 379 63 50  
[conseiller-etudes-bachelor-physique@unige.ch](mailto:conseiller-etudes-bachelor-physique@unige.ch)

[www.unige.ch/sciences](http://www.unige.ch/sciences)



# MASTER IN ASTROPHYSICS

The up-to-date webpage of the Master programme is available on:  
<https://www.unige.ch/sciences/astro/en/education/master-in-astrophysics/>



## DURATION OF STUDIES

2 years (4 semesters)

## LANGUAGE OF INSTRUCTION

English

## CONDITIONS OF REGISTRATION

[www.unige.ch/conditions/MA](http://www.unige.ch/conditions/MA)

## ADMISSION CONDITIONS

A Bachelor in Physics, or an equivalent degree.

## Master's Programme

### THE MASTER IN ASTROPHYSICS

provides advanced training in astrophysics with an emphasis on exo-planetology, stellar and extra-galactic physics, ground- and space-based instrumentation, and concepts and tools of modern data science. It includes common courses and a specialisation in one of the above domains. The programme and dissertation work take place in a renowned research institute (the Department of Astronomy of the University, also known as the "Geneva Observatory"), offering direct contacts with the local research groups and with international collaborations which use and contribute to state-of-the-art facilities of the field (ESO, ESA, NASA, and others).

Through the programme, students acquire both a solid foundation in modern astrophysics and expertise in their field of specialisation. The programme leads to careers in areas such as research, teaching and industry, and develops valuable skills for future.

#### AVAILABLE ORIENTATIONS:

- Exoplanetology
- From stars to the Universe
- Instrumentation and data analysis

[www.unige.ch/sciences/astro/en/education/master-in-astrophysics](http://www.unige.ch/sciences/astro/en/education/master-in-astrophysics)



## STUDY PROGRAMME

4 semesters (max. 8 semesters) | 120 ECTS credits

**Specialisation courses and electives, seminars, course work**  
60 credits

### Dissertation

60 credits

### PLANET 5

*Origin, evolution and characterisation of planets in the solar system and beyond. Since the discovery of exo-planets by the UNIGE back in 1995, planetology now not only focuses on discovery, but on the physical and chemical characterisation of these new worlds. In this context the activities of Planet5 concern three main themes: the origin, evolution, and characterization of planets and planetary systems as a whole. Ultimately, Planet5 lays the foundations of a Swiss Institute of Planetary Sciences that will carry on these activities beyond the lifetime of the National Centre of Competence in Research.*

[nccr-planets.ch](http://nccr-planets.ch)

## ACADEMIC CALENDAR

[www.unige.ch/calendar](http://www.unige.ch/calendar)

## LEVEL OF FRENCH REQUIRED BY UNIGE

No French proficiency test required for non-Francophones.

## MOBILITY

Students may conduct research outside the university, under the supervision of a faculty member, or do a work placement at a leading external laboratory in order to complete their Master's degree.

[unige.ch/exchange](http://unige.ch/exchange)

## PROFESSIONAL PROSPECTS

The Master in Astrophysics leads to a number of opportunities both in Switzerland and abroad, including:

- Research
- Data Science
- International organisations (ESA, ESO)
- Industry
- Teaching
- Communication and science outreach

## UNIVERSITY TAXES

500 CHF / semester

## REGISTRATION

Deadline for candidates that hold a foreign bachelor's degree: 28 February 2025  
(30 April 2025 for candidates that hold a Swiss bachelor's degree at the start of the next academic year AND, according to their nationality, are not subject to a visa for entry into Switzerland for more than 90 days, according to Swiss government requirements and regardless of their current place of residence, or for candidates holding a Swiss residence permit that is valid beyond 30 April.)

[www.unige.ch/enrolment](http://www.unige.ch/enrolment)

## CONTACTS FOR STUDIES

### FACULTY OF SCIENCE

Sciences II  
30 quai Ernest-Ansermet  
1211 Genève 4

### STUDENT AFFAIRS

T. +41 (0)22 379 66 61/62/63  
[secretariat-etudiants-sciences@unige.ch](mailto:secretariat-etudiants-sciences@unige.ch)

### ACADEMIC ADVISOR

Xavier Chillier  
T. +41 (0)22 379 67 15  
[conseiller-etudes-sciences@unige.ch](mailto:conseiller-etudes-sciences@unige.ch)

### DEPARTMENT OF ASTRONOMY

Daniel Schaerer  
T. +41(0)22 379 24 54  
[Daniel.Schaerer@unige.ch](mailto:Daniel.Schaerer@unige.ch)  
[astro-master@unige.ch](mailto:astro-master@unige.ch)

[www.unige.ch/sciences](http://www.unige.ch/sciences)

All programs are subject to changes. Please consult the program regulations.

## ORGANISATION OF THE MASTER IN ASTROPHYSICS

### **Director of the Master programme & Student counsellor**

Prof. Daniel SCHAERER  
Dept. of Astronomy, Sauverny site, office 442  
T 022 379 24 54 – [Daniel.Schaerer@unige.ch](mailto:Daniel.Schaerer@unige.ch)  
[astro-master@unige.ch](mailto:astro-master@unige.ch)

### **Programme coordinator**

Prof. François BOUCHY  
Dept. of Astronomy, Sauverny site, office 1414  
T 022 379 24 60 – [Francois.Bouchy@unige.ch](mailto:Francois.Bouchy@unige.ch)

### **Programme secretary**

Erika SEGRANSAN  
Dept. of Astronomy, Sauverny site, office 213  
Office hours Tuesday-Thursday / Wednesday (afternoon)  
T 022 379 23 54 – [Erika.Segransan@unige.ch](mailto:Erika.Segransan@unige.ch)

### **Student Secretariat of the Faculty**

T 022 379 66 61/62/63  
[Secretariat-Etudiants-sciences@unige.ch](mailto:Secretariat-Etudiants-sciences@unige.ch)  
<https://www.unige.ch/sciences/en/secretariatetudiants/secretariat-des-etudiants/>

The student secretariat of the Faculty, located in Sciences III, Geneva, will answer all your questions related to your studies.

# PROGRAMME OF THE MASTER IN ASTROPHYSICS

## About the Programme

The Master in Astrophysics is a 2-year research and technique Master (120 ECTS) with the following structure.

**Semester 1** (30 ECTS): Mandatory and Elective courses common to all specialisations

**Semester 2** (30 ECTS): Courses from one specialisation among:

- Exoplanetology
- From Stars to the Universe
- Instrumentation and data analysis

**Semesters 3 & 4** (60 ECTS):

- Major research project (Master thesis)
- Astrophysics Colloquium

The detailed courses list is available on:

<https://www.unige.ch/sciences/astro/en/education/master-in-astrophysics/program/>

The regulations (legal text in French) of the Master Programme are available on:

<https://www.unige.ch/sciences/application/files/9616/6576/2925/B12.pdf>

## COMMON PROGRAMME (ALL SPECIALISATIONS) – SEMESTER 1

**Semester 1 (Autumn): 30 ECTS**

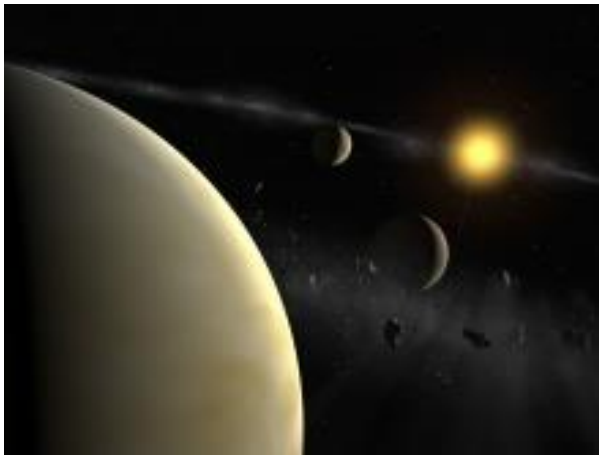
**Mandatory:**

- Physical processes in astrophysics (microscopic) (2h, 3.5 ECTS)  
- *Dr. P. Eggenberger*
- Physical processes in astrophysics (macroscopic) (2h, 3.5 ECTS)  
- *Prof. A. Fragkos*
- Star and planets – an introduction (2h, 3.5 ECTS)  
- *Prof. E. Bolmont / Prof. A. Fragkos / Prof. L. Amard*
- Galaxies and cosmology – an introduction (2h, 3.5 ECTS)  
- *Prof. D. Schaerer / Prof. P. Oesch*
- Astronomical observables (2h, 3.5 ECTS) - *Prof. S. Paltani*
- Astrophysics & Data Science (2h + 1h, 5 ECTS) - *Prof. D. Ségransan / Prof. A. Leleu*
- Astrophysics Lab I (7.5 ECTS) - *Dr. M. Audard*

**Elective:**

- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

## SPECIALISATION EXOPLANETOLOGY (SEMESTER 2)



### Semester 2 (Spring): 30 ECTS

#### Mandatory:

- Dynamics of planetary systems (2h+0.5h, 4.5 ECTS)  
- *Prof. S. Udry / Prof. E. Bolmont*
- Planet formation and evolution (2h+0.5h, 4.5 ECTS)  
- *Prof. D. Ehrenreich / Prof. S. Udry / Dr. J. Venturini*
- Detection and characterisation techniques (2h+0.5h, 4.5 ECTS) - *Prof. F. Bouchy / Prof. X. Dumusque / Prof. M. Lendl*
- Planetary atmospheres (2h+0.5h, 4.5 ECTS)  
- *Prof. D. Ehrenreich / Prof. E. Bolmont / Prof. V. Bourrier / Prof. C. Lovis*
- Astrophysics Lab II (7.5 ECTS) – *Dr. M. Audard*

#### Elective:

- Course(s) from other specialisations or other courses
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

#### Other Courses

- Astroparticle Physics (3.5 ECTS) - *Prof. T. Montaruli*
- Cosmology II (8 ECTS) - *Prof. C. Bonvin*

Other courses can be chosen from the offer of the Faculty of Sciences, in agreement with the Coordinator of the Master.

## SPECIALISATION FROM STARS TO THE UNIVERSE (SEMESTER 2)



**Semester 2 (Spring): 30 ECTS**

**Mandatory: 4 out of 5 courses from this list + Astrophysics Lab II**

- Stellar structure and evolution (2h+0.5h, 4.5 ECTS) - *Prof. T. Fragkos / Dr. Eggenberger / Dr. L. Eyer*
- Galaxies and cosmology II - Galaxy evolution in a cosmological context (2h+0.5h, 4.5 ECTS) - *Prof. P. Oesch / Dr. D. Eckert*
- High energy astrophysics (2h+0.5h, 4.5 ECTS) - *Dr. R. Walter / Dr. M. Audard / Dr. C. Ferrigno / Dr. N. Produit*
- From stars to galaxies: spectroscopic diagnostics in astrophysics (2h+0.5h, 4.5 ECTS) - *Prof. D. Schaerer*
- From interstellar medium to stars: the diffuse media and its link to star formation (2h+0.5h, 4.5 ECTS) - *Dr. M. Audard / Prof. A. Verhamme*
- From stars to the Universe: exercices (2h+0.5h, 4.5 ECTS, 0 ECTS)
- Astrophysics Lab II (7.5 ECTS) - *Dr. M. Audard*

**Elective (other courses):**

- Course(s) from other specialisations or other courses
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

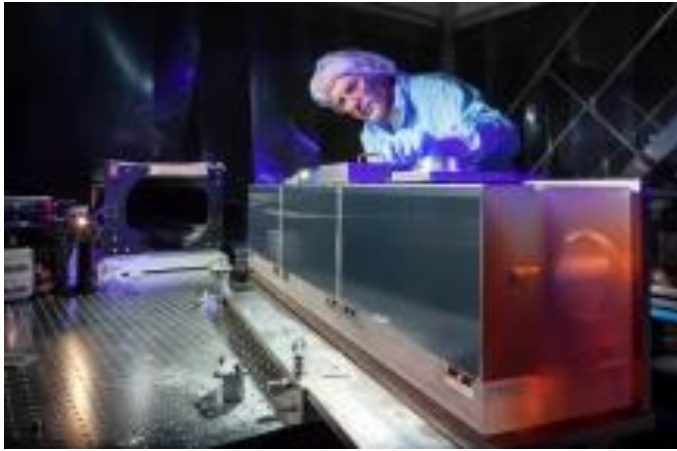
**Other Courses**

- Astroparticle Physics (3.5 ECTS) - *Prof. T. Montaruli*
- Cosmology (8 ECTS) - *Prof. C. Bonvin*

Other courses can be chosen from the offer of the Faculty of Sciences, in agreement with the Coordinator of the Master.



## SPECIALISATION INSTRUMENTATION AND DATA ANALYSIS (SEMESTER 2)



**Semester 2 (Spring): 30 ECTS**

### **Mandatory:**

- Observational techniques (2h, 3.5 ECTS) - *Prof. F. Pepe*
- Optics and detectors for astronomy (2h, 3.5 ECTS)  
- *Dr. B. Chazelas / Dr. F. Wildi / Prof. F. Pepe / Dr. N. Blind / Dr. A. Lanotte / Dr. N. Produit*
- Optics and detectors for astronomy – Exercices + projects (2h, 3.5 ECTS)  
- *Dr. F. Wildi / Dr. B. Chazelas / Dr. N. Blind / Dr. N. Produit / Prof. F. Pepe*
- Observations, data acquisition, data analysis (2h + 2h, 7.5 ECTS)  
- *Prof. C. Lovis / Dr. D. Eckert / Prof. M. Lendl / Prof. S. Paltani / Prof. D. Ségransan / Dr. M. Dessauges / Dr. L. Eyer*
- Astrophysics Lab II (7.5 ECTS) – *Dr. M. Audard*

### **Elective:**

- Course(s) from other specialisations or other courses
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

### **Other Courses**

- Astroparticle Physics (3.5 ECTS) - *Prof. T. Montaruli*
- Cosmology (8 ECTS) - *Prof. C. Bonvin*

Other courses can be chosen from the offer of the Faculty of Sciences, in agreement with the Coordinator of the Master.

## ALL SPECIALISATIONS – SEMESTERS 3 & 4

### Semester 3 (Autumn) & 4 (Spring): 60 ETCS

- Major research project (Master thesis, 60 ECTS)
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

# COURSE SCHEDULE

**Master in Astrophysics** (Department of Astronomy, University of Geneva)  
Complete schedule for the **fall semester** – 15 September – 19 December 2025

Monday	Tuesday	Wednesday	Thursday	Friday
8h45 - 17h30 M. Audard Astrophysics Lab I	8h45 - 10h30 S. Paltani Astrophysical observables  10h30 - 11h00 Science coffee 11h00 - 12h00 Astrophysics Colloquium UniGE-EPFL	10h15 - 12h00 T. Fragkos Physical processes in astrophysics (macroscopic)	10h15 - 12h00 D. Schaerer/ P. Oesch Galaxies and cosmology - an introduction	
	13h30 - 16h00 D. Ségransan / A. Leleu Astrophysics and data science (course + exercises)	13h15 - 15h00 L. Amard / E. Bolmont / T. Fragkos Stars and planets - an introduction	14h15 - 16h00 P. Eggenberger Physical processes in astrophysics (microscopic)	

Courses in room 263 (ground-floor), Dept. of Astronomy, Versoix

**Master in Astrophysics** (Department of Astronomy, University of Geneva)  
Complete schedule for the **spring semester** – 16 February 2026 – 29 May 2026

Monday	Tuesday	Wednesday	Thursday	Friday
08h45 - 17h30 M. Audard Astrophysics Lab II	08h45 - 10h30 T. Fragkos / L. Eyer / P. Eggenberger Stellar Structure and Evolution  10h30 - 11h00 Science coffee  11h00 - 12h00 Astrophysics Colloquium UniGE-EPFL	08h45 - 10h30 B. Chazelas / F. Wildi / F. Pepe / N. Blind / A. Lanotte / N. Produit Optics and Detectors for Astronomy  10h45 - 12h30 D. Schaerer From stars to galaxies: Spectroscopic diagnostics in astrophysics	08h45 - 10h30 S. Udry / E. Bolmont Dynamics of Planetary Systems  10h45 - 12h30 F. Wildi / B. Chazelas N. Blind / N. Produit / F. Pepe Optics and Detectors for Astronomy (Ex+projects)  10h45 - 12h30 all Stars to Universe: Exercises	08h45 - 10h30 all Exoplanetology Exercises  10h45 - 12h30 R. Walter / M. Audard / C. Ferrigno / N. Produit High energy astrophysics
	13h15 - 15h00 M. Audard / A. Verhamme Diffuse Media, Star Formation  15h15 - 17h00 F. Bouchy / X. Dumusque / M. Lendl Detection and characterisation techniques	13h15 - 15h00 P. Oesch / D. Eckert Galaxies and cosmology II – Galaxy evolution in a cosmological context  15h15 - 17h00 F. Pepe Observational techniques	13h15 - 15h00 D. Ehrenreich / E. Bolmont / V. Bourrier / C. Lovis Planetary atmospheres  15h15 - 17h00 D. Ehrenreich / S. Udry / J. Venturini Planet formation and evolution	13h15 - 15h00 C. Lovis + Observation, data acquisition, data analysis (course + exercises)  15h15 - 17h00 C. Lovis + Observation, data acquisition, data analysis (course + exercises)

Courses in room 263 (ground-floor), Dept. of Astronomy, Versoix

Specialisations : *Exoplanetology* / *From Stars to the Universe* / *Instrumentation and Data Analysis*

## COURSE LIST AND DESCRIPTIONS

For a detailed online description of each course please follow the links given in the document.

### MASTER IN ASTROPHYSICS

#### Semester 1 - Common Courses

##### Mandatory

Code	Name	Faculty	Type/Semester	ECTS credits
14A030	<a href="#">Physical processes in astrophysics (microscopic)</a>	S	CR 2h A THU 14h15 - 16h00, Obs room 263	3,5
14A031	<a href="#">Physical processes in astrophysics (macroscopic)</a>	S	CR 2h A WED 8h45-10h30, Obs room 263	3,5
14A032	<a href="#">Star and planets - an introduction</a>	S	CR 2h A WED 13h15-15h00, Obs room 263	3,5
14A033	<a href="#">Galaxies and cosmology - an introduction</a>	S	CR 2h A THU 10h15-12h00, Obs room 263	3,5
14A034	<a href="#">Astrophysical observables</a>	S	CR 2h A TUE 08h45-10h30, Obs room 263	3,5
14A035	<a href="#">Astrophysics and Data Science</a>	S	CX 2h A TUE 13h30-16h00, Obs room 263	5
14A900	<a href="#">Astrophysics Lab I</a>	S	TP 8h A MON 08h45-17h30, Obs	7,5

##### Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	<a href="#">Astrophysics colloquium</a>	S	SE 1h AN TUE 11h00-12h00, Obs Aula	
10A001	<a href="#">Lunes, planètes naines et petits corps du système solaire</a>	S	SE 1h A MA 17-19, SCII-A300	

## Semester 2 – Specialisation: Exoplanetology

### Mandatory

Code	Name	Faculty	Type/Semester	ECTS credits
14A040	<a href="#">Dynamics of planetary systems</a>	S	CX 2h P THU 08h45-10h30, Obs room 263	4,5
14A041	<a href="#">Planet formation and evolution</a>	S	CX 2h P TUE 15h15-17h00, Obs room 263	4,5
14A042	<a href="#">Detection and characterization techniques</a>	S	CX 2h P THU 15h15-17h00, Obs room 263	4,5
14A043	<a href="#">Planetary atmospheres</a>	S	CX 2h P THU 13h15-15h00, Obs room 263	4,5
14A044	<a href="#">Exoplanetology: exercises</a>	S	EX 2h P FRI 08h45-10h30, Obs room 263	0
14A901	<a href="#">Astrophysics Lab II</a>	S	TP 8h P MON 08h45-17h30, Obs	7,5

### Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	<a href="#">Astrophysics colloquium</a>	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

## Semester 2 – Specialisation: From stars to the Universe

**Mandatory: 4 out of 5 courses from this list + Astrophysics Lab II**

Code	Name	Faculty	Type/Semester	ECTS credits
14A050	<a href="#">Stellar structure and evolution</a>	S	CX 2h P TUE 08h45-10h30, Obs room 263	4,5
14A051	<a href="#">Galaxies and Cosmology II - Galaxy Evolution in a Cosmological Context</a>	S	CX 2h P WED 13h15-15h00, Obs room 263	4,5
14A052	<a href="#">High energy astrophysics</a>	S	CX 2h P FRI 10h45-12h30, Obs room 263	4,5
14A053	<a href="#">From stars to galaxies: spectroscopic diagnostics in astrophysics</a>	S	CX 2h P WED 10h45-12h30, Obs room 263	4,5
14A054	<a href="#">From interstellar medium to stars: diffuse media and their link to star formation</a>	S	CX 2h P TUE 13h15-15h00, Obs room 263	4,5
14A055	<a href="#">From stars to the Universe: exercises</a>	S	EX 2h P WED 15h15-17h00, Obs room 263	0
14A901	<a href="#">Astrophysics Lab II</a>	S	TP 8h P MON 08h45-17h30, Obs	7,5

## Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	<a href="#">Astrophysics colloquium</a>	S	SE 1h AN TUE 11h00-12h00, Obs Aula	



## Semester 2 – Specialisation: Instrumentation and Data Analysis

### Mandatory

Code	Name	Faculty	Type/Semester	ECTS credits
14A060	<a href="#">Observational techniques</a>	S	CR 2h P WED 15h15-17h00, Obs room 263	3,5
14A061	<a href="#">Optics and Detectors for astronomy</a>	S	CR 2h P THU 10h45-12h30, Obs room 263	3,5
14A062	<a href="#">Optics and detectors in astrophysics (Ex + projects)</a>	S	CX 2h P WED 08h45-10h30, Obs room 263	3,5
14A063	<a href="#">Observations, data acquisition, data analysis</a>	S	CX 4h P FRI 13h15-17h00, Obs room 263	7,5
14A901	<a href="#">Astrophysics Lab II</a>	S	TP 8h P MON 08h45-17h30, Obs	7,5

### Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	<a href="#">Astrophysics colloquium</a>	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

## 2<sup>nd</sup> Year – All specialisations

Code	Name	Faculty	Type/Semester	ECTS credits
	Major research project	S	AN	60
14A730	<a href="#">Astrophysics colloquium</a>	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

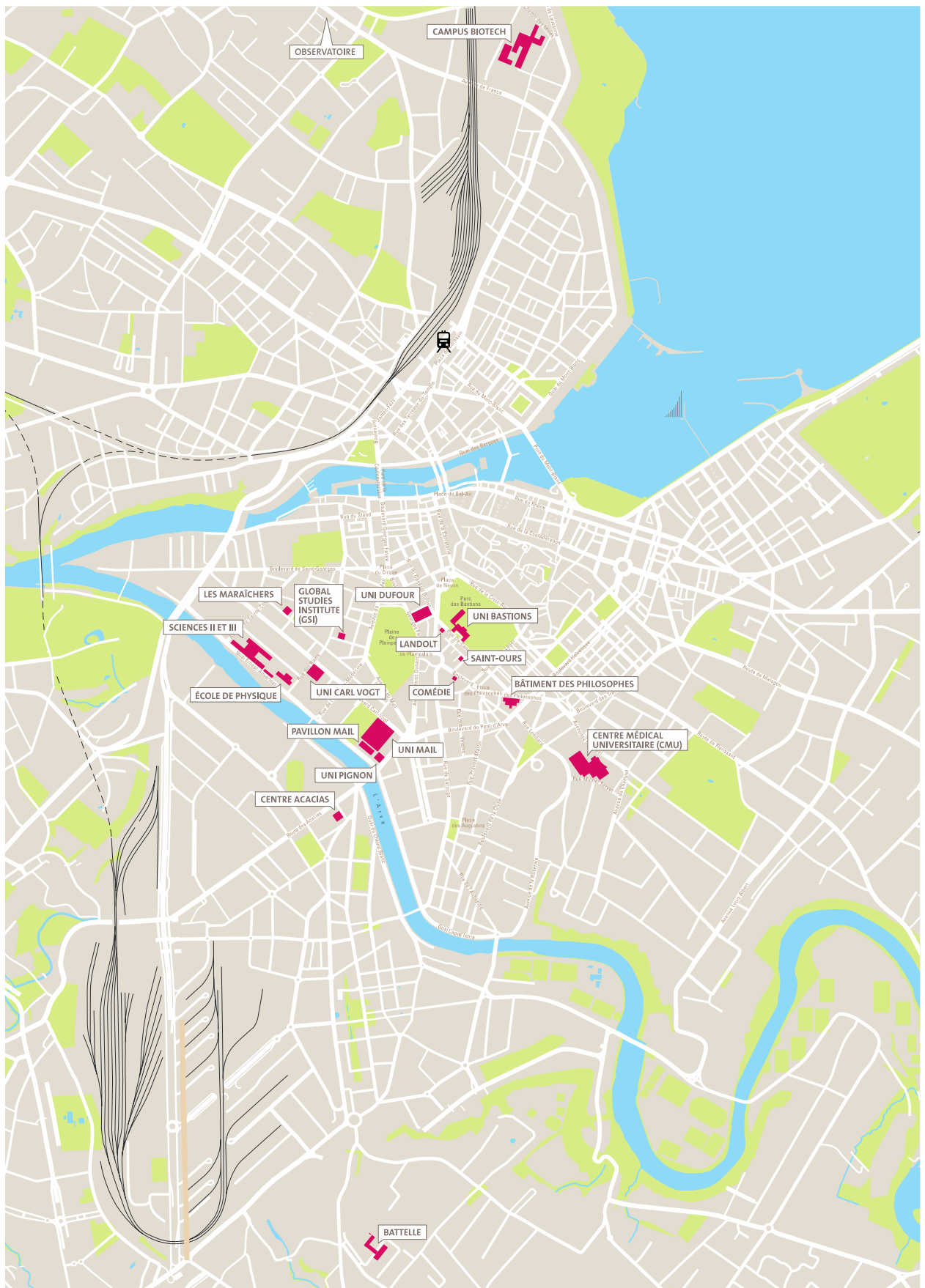
## **FACULTY OF SCIENCE**

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<b>Uni Carl Vogt</b>	66 bd Carl-Vogt
<b>Sciences II et III</b>	30 quai Ernest-Ansermet
<b>École de physique</b>	24 quai Ernest-Ansermet
<b>Les Maraîchers</b>	13 rue des Maraîchers
<b>Centre Acacias</b>	2-4 rue du Lièvre
<b>Observatoire</b>	51 chemin Pegasi, Versoix
<b>Centre médical universitaire (CMU)</b>	1 rue Michel-Servet
<b>Battelle</b>	7 route de Drize, Carouge
<b>Campus Biotech</b>	9 chemin des Mines

## **Other UNIVERSITY buildings**

<b>Uni Dufour</b>	24 rue du Général-Dufour
<b>Uni Bastions</b>	5 rue De-Candolle
<b>Saint-Ours</b>	5 rue de Saint-Ours
<b>Comédie</b>	10-12 bd des Philosophes
<b>Landolt</b>	2 rue De-Candolle
<b>Bâtiment des Philosophes</b>	22 bd des Philosophes
<b>Uni Mail</b>	40 bd du Pont-d'Arve
<b>Uni Pignon</b>	42 bd du Pont-d'Arve
<b>Pavillon Mail</b>	40A bd du Pont-d'Arve
<b>Global Studies Institute (GSI)</b>	10 rue des Vieux-Grenadiers



# sciences



## **FACULTÉ DES SCIENCES**

**30 quai Ernest-Ansermet  
CH - 1211 Genève 4**

**[www.unige.ch/sciences](http://www.unige.ch/sciences)**



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