

**ESO** Supernova  
Planetarium & Visitor Centre



## General Information

# ESO Supernova

## Planetarium & Visitor Centre



Klaus Tschira Stiftung  
gemeinnützige GmbH



KTS

Heidelberg Institute for  
Theoretical Studies



HITS

# The ESO Supernova is proudly supported by

## Founding Partners



Klaus Tschira Stiftung  
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## Galaxy Partner



## Constellation Partners



EVANS & SUTHERLAND



## Star Partners

We're waiting for you!

## Planet Partner



## Media Partner



## Technology Partners

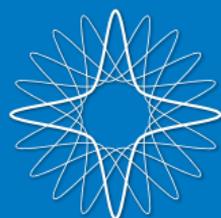


## Educational Partner



## About the logo

The multiple overlapping stars in our logo symbolise both the energy of a supernova and the vibrant energy of the educational facility. Associations with a spirograph or the repetitive swinging of a pendulum are welcome. The underlying fundamental geometry in the logo comes from the stars used in the ESO logo.



ESO Supernova  
Planetarium & Visitor Centre

## Front cover

The entrance of the ESO Supernova Planetarium & Visitor Centre.  
Credit: Brilllux, Sven Rahm Fotografie

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About the Centre



Inside the ESO Supernova

The ESO Supernova Planetarium & Visitor Centre is a cutting-edge astronomy centre for the public located on the site of ESO's Headquarters in Garching bei München. It was made possible by a cooperation between the European Southern Observatory (ESO) and the Heidelberg Institute for Theoretical Studies (HITS). The building is a donation from the Klaus Tschira Stiftung and ESO runs the facility.

The heart of the ESO Supernova is a planetarium with state-of-the-art projection technology, 109 seats, a dome 14 metres in diameter and a scientifically accurate three-dimensional astronomical database, all of which ensures an authentic and immersive experience. The ESO Supernova also contains a 2200 m<sup>2</sup> interactive astronomical exhibition. In addition, school classes can book one of our hands-on workshops.

The ESO Supernova is a non-profit educational facility that receives no state funding other than through ESO's normal operating budget. Entry to the exhibition is free of charge and requires no prior booking. For all other public activities that we offer you need to make a reservation online and purchase a ticket: planetarium shows (5 euros/person), guided tours (8 euros/person) or evening public events (price varies). Our education programme for organised school groups is free.

The ESO Supernova's vision is to make our community both aware of and proud of their astronomical achievements. By sharing the fascinating world of astronomy and ESO, we aim to inspire coming generations to appreciate and understand the Universe around us. The ESO Supernova's mission is to engage you — the visitors — as active participants. By designing curriculum-based learning experiences and using Big Data in astronomy to create innovative and authentic visualisations of front-line science, we bring ESO's observing facilities in the Southern Hemisphere closer to you.



In 2011, after spending a few years developing the idea of an exciting and innovative new building for astronomy education and public outreach, Klaus Tschira, Managing Director of the Klaus Tschira Stiftung (KTS) and the Heidelberg Institute for Theoretical Studies (HITS), started discussing options with ESO for hosting the facility.

In early 2015 construction work on the ESO Supernova building began at ESO Headquarters.

In April 2016 the impressive star-roof was installed over the Void in the ESO Supernova. The roof, which weighs almost 30 tonnes, consists of glass panels set into a metal framework made of triangular sections — 262 of them, arranged to artistically represent some of the constellations of the southern sky.

After just over a year of construction work, the shell of the centre was finished in summer 2016. In the months leading up to April 2018, the exhibition was installed and the final touches were made to all aspects of the ESO Supernova.

The novel design of the new building resembles that of a close double-star system with one star transferring mass to its companion. This setup will ultimately lead to the heavier component exploding as a supernova, briefly becoming as bright as the light of all the stars in the Milky Way combined. We expect the centre — aptly named the ESO Supernova — to similarly shine like a supernova, generating an enthusiasm and passion for astronomy amongst young and old.

The ESO Supernova was designed by the architects Bernhardt + Partner. Their office was established in 1994 and is located in Darmstadt, Germany. The team's ability to design eye-catching, memorable science buildings is evident in their past projects, such as the Haus der Astronomie, and the EMBL International Centre for Advanced Training (both in Heidelberg).



Scan the code to watch the construction timelapse.

Detail of the building

## About ESO



ESO's three observing sites: Paranal (top), La Silla (centre) and Chajnantor (bottom)

G. Hudepohl (atacamaphoto.com)/ESO



A. Ghizzi Panizza/ESO



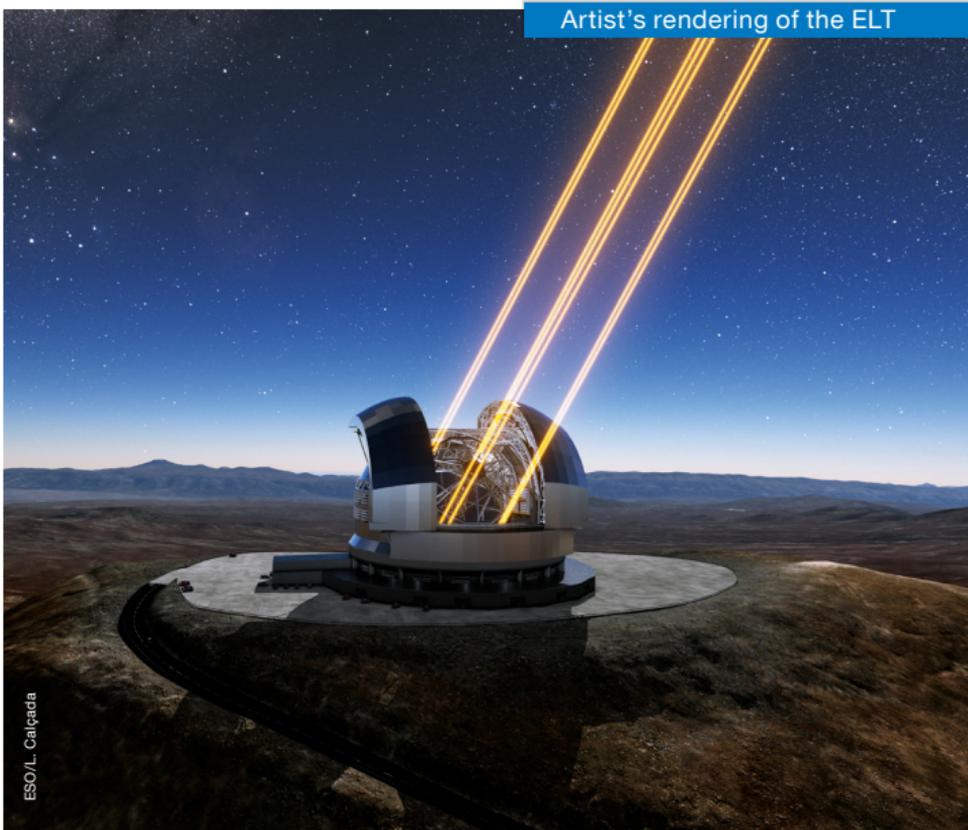
Y. Beletsky/ESO

ESO, the European Southern Observatory, is the foremost inter-governmental astronomy organisation in Europe and the world's most productive astronomical observatory. ESO is supported by Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom, along with the host state of Chile.

ESO's main mission is to provide state-of-the-art research facilities to astronomers and astrophysicists, allowing them to conduct front-line science in the best conditions. The annual Member State contributions to ESO are approximately 198 million euros and ESO employs around 700 staff members. By building and operating a suite of the world's most powerful ground-based astronomical telescopes that enable important scientific discoveries, ESO offers numerous possibilities for technology spin-off and transfer. Together with high-technology contract opportunities ESO is an impressive showcase for European industry.

The ESO Headquarters (comprising the scientific, technical and administrative centre of the organisation) are located in Garching near Munich, Germany. In Chile, ESO operates the Vitacura centre as well as three unique observing sites: La Silla, Paranal and Chajnantor.

ESO is building the 39-metre Extremely Large Telescope, the ELT, which will become "the world's biggest eye on the sky".



### Experience the Universe!

The heart of the ESO Supernova is a digital planetarium which offers a unique experience through the use of state-of-the-art visualisation techniques.

The shows are displayed on a 360-degree dome, 14 metres in diameter. The clear, digital projection and three-dimensional astronomical database ensure a unique and immersive experience.

The dome can seat up to 109 visitors, has an inclination of 25 degrees, and gives you the experience of not only watching a show, but also of being in the middle of the action in the Universe. This, combined with the most up-to-date programmes for our planetarium shows, creates a stunning experience that completely immerses you in space!

Enjoy several different kinds of shows in German and in English, all including a live component that shows real-time events in the night sky and contains information about recent astronomical discoveries. A limited number of translation headsets are available at the reception, allowing our visitors to hear a German show in English or vice versa. Our programme changes regularly. A selection of our shows can be found on the following pages. To see our daily programme and book your tickets, please visit our website.

All shows last between 30 minutes and 1 hour. Entry to the planetarium is not permitted after the doors close. This policy is strictly respected for safety reasons and to ensure the best experience for our visitors. Please arrive at least 15 minutes before the show starts. Planetarium tickets cost 5 euros/person. Kindergarten and school groups enjoy free entry to the shows only if they have previously sent a request via our website section "For educators".

The ESO Supernova also offers the first real-time, data-driven distribution system for planetariums in Germany, the ESO Member States and the rest of the world. We also share all our planetarium products with the community, making the ESO Supernova the first open-source planetarium in the world.



Scan the code to see the planetarium shows currently on offer.



Inside the planetarium

### The Skies Above Us

Ages  
4+



#### Educational show

Designed specifically for our youngest school groups, this educational show investigates the Earth–Moon–Sun system and tells stories of the constellations. This interactive and engaging show is aimed at children aged 4–7.

This show is presented live and there is no translation available.

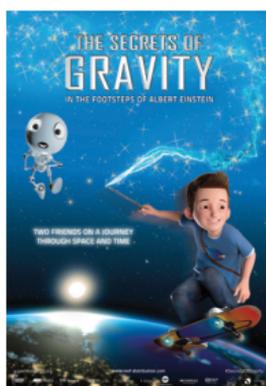
Price: €5

Duration: 00:40

Languages: EN/DE

### The Secrets of Gravity — In the Footsteps of Albert Einstein

Ages  
6+



#### Family show

Robot ALBY takes young Luke on a magical journey of discovery through time and space, during which they not only uncover the secrets of gravity, but also learn about friendship and imagination — for both Luke and ALBY have secrets of their own.

Price: €5

Duration: 01:00

Languages: EN/DE

### The Amazing Adventures of Rosetta and Philae

Ages  
6+



#### Family show

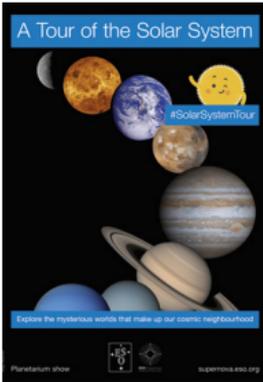
Join Rosetta and her lander Philae on a wonderful journey to the comet Chury. They travelled for more than ten years and experienced lots of exciting things. Little Philae eventually managed to land on the comet and explore it more closely. Come along on the adventure and find out what secrets Philae and Rosetta were able to unveil.

Price: €5

Duration: 00:50

Languages: EN/DE

## A Tour of the Solar System



### Educational show

For primary school visitors and young families, this educational planetarium show, ideally suited to children aged 8–11, combines an exploration of the night sky with a factual journey through our Solar System.

This show is presented live and there is no translation available.

Price: €5

Duration: 01:00

Languages: EN/DE

## From Earth to the Universe



### Family show

This stunning voyage through space and time conveys the Universe revealed to us by science. Revel in the splendour of the worlds in the Solar System. Travel to the colourful birthplaces and burial grounds of stars, and still further out beyond the Milky Way to the unimaginable immensity of a myriad of galaxies. Along the way, you will learn about the history of astronomy, the invention of the telescope, and today's giant telescopes that allow us to probe ever deeper into the Universe.

Price: €5

Duration: 00:50

Languages: EN/DE

## The Planets — Expedition into the Solar System



### Family show

In recent years, space probes have been sent to explore the planets of our Solar System like Mars and Jupiter. In *The Planets — Expedition into the Solar System* you will be taken on a trip to discover our cosmic neighbours through the eyes of these space voyagers. The wonders of the Solar System await you.

Price: €5

Duration: 00:48

Languages: EN/DE

### Europe to the Stars



#### Family show

Join an epic journey behind the scenes at the most productive ground-based observatory in the world, revealing the science, history, technology and people of the European Southern Observatory.

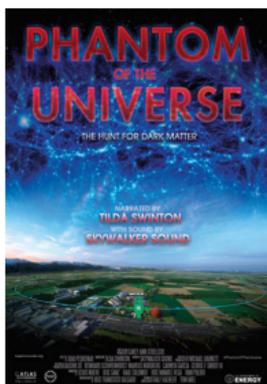
Discover ESO's story of cosmic curiosity, courage and perseverance; a story of observing a Universe of deep mysteries and hidden secrets; and a story of designing, building and operating the most powerful ground-based telescopes on the planet.

Price: €5

Duration: 00:40

Languages: EN/DE

### Phantom of the Universe



#### Family show

Follow the search for dark matter, from the first hints of it ever observed to today's advanced experiments in particle colliders. Race alongside protons and witness their collisions in stunning visualisations, understand dark matter, discover what we know about it so far and what are scientists still looking for.

Price: €5

Duration: 00:42

Languages: EN/DE

Klaus Tschira Stiftung  
gemeinnützige GmbH



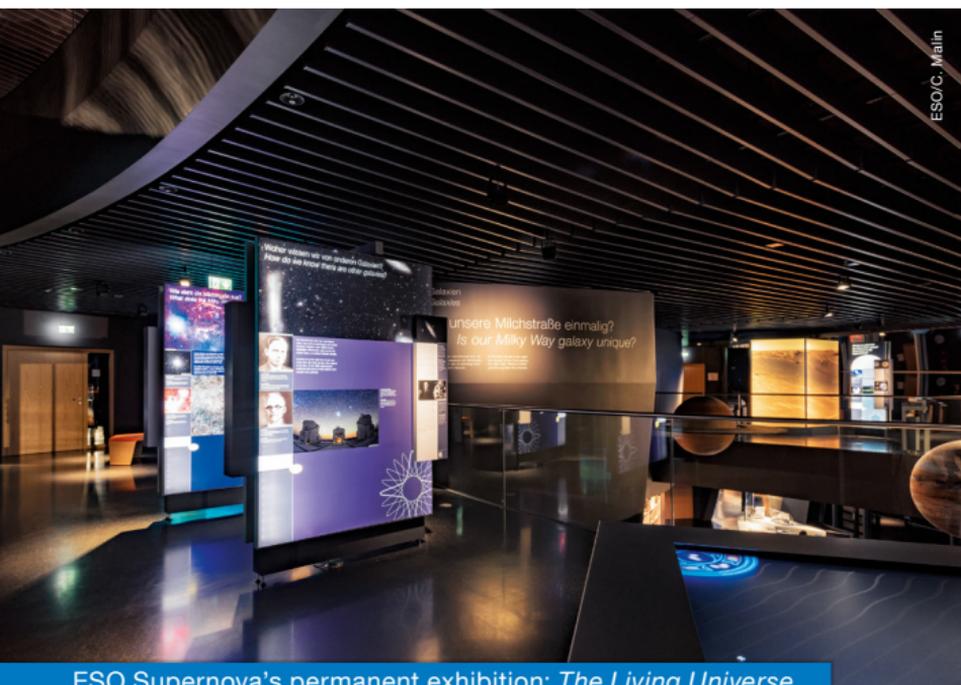
We support the  
Natural Sciences, Mathematics  
and Computer Science.



Experience  
the

Universe!

## Permanent Exhibition



ESO Supernova's permanent exhibition: *The Living Universe*

## Sharing the fascinating world of astronomy and ESO through 2200 m<sup>2</sup> of interactive astronomical exhibition

The ESO Supernova hosts an outstanding, modern and interactive astronomical exhibition, which is as entertaining as it is educational. Explore, touch and use real astronomical artefacts and conduct experiments to get an idea of what it means to be an astronomer, to work in science, and to discover the mysteries of the Universe.

The exhibition covers the topic of life in the Universe in the broadest sense. It connects you with topics that can seem very distant and abstract by focusing on the human–Universe connection, general astronomy, life in the Universe, and how we observe the Universe using ESO facilities.

Investigate all 13 different themes of the exhibition or select your own highlights. Choose the depth of knowledge you would like for each item, giving you complete control over how deeply you would like to delve into the fascinating science of astronomy.

How long you stay is up to you — you can spend just 30 minutes on a quick walkthrough, or up to four hours on an in-depth study of all the exhibits. You can even make several visits, concentrating on a different part of the exhibition each time!

All information in the exhibition is available in English and German.

ESO/P. Horálek



Young visitors enjoying one of the interactive exhibits

Visiting the exhibition on your own does not require prior booking and is free of charge. Come directly to the ESO Supernova reception where you can get your personal free entrance ticket for the exhibition. This ticket includes a unique QR code and an individual URL. Many digital stations in the exhibition are equipped with a QR code reader (a blue box with a red light) which allows you to scan your code — in doing so you create a screenshot of the associated station and store it online. The URL on your ticket contains all the scans you make in the exhibition, creating your own personal take-home exhibition!

Using your personal smartphone and an app that can read QR codes, you can also scan our panels, each of which has its own code. This way you can re-read the parts you are most interested in again at home, or share the images from the panels with your friends!

If you would like to take part in a guided tour, advance online booking and payment are required. Please see the guided tours section for more details.



**Free entry**

Scan the code to find out more about our exhibition.



### Inspiring you to appreciate and understand the Universe around us

You can join one of our special guided tours for the price of 8 euros/person. We offer two different tours, each available in both German and English. Make your choice, reserve a place and pay online in advance, print your ticket from a ticket kiosk at the ESO Supernova, and join us. All tours start from the Void, next to the entrance area, and last for about 45 minutes.

See our daily programme online on [supernova.eso.org](http://supernova.eso.org) or on the infoscreens at the ESO Supernova for the starting times of the tours.

Private groups of up to 25 people can also book a guided tour at a time of their choice, at a cost of 200 euros per tour.

### Exhibition Tour



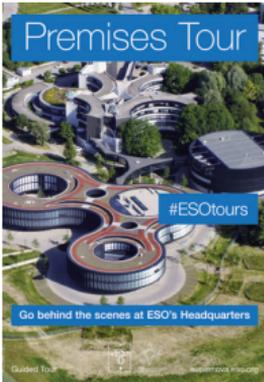
Price: €8

### Standard tour

Join one of our guided tours to be led through the exhibition. Your guide will lead you around the highlights of the exhibition and answer any questions you may have about astronomy.

Duration: 00:45  
Languages: EN/DE  
Max. no. participants: 25

## Premises Tour



### Standard tour

Take a peek into the heart of the European Southern Observatory by visiting the ESO Headquarters building, and learn more about the history and future of ESO. The building is normally closed to visitors.

Duration: 00:45  
Languages: EN/DE  
Max. no. participants: 25

Price: €8

For practical reasons the guided tours are limited to 25 people. Please ensure that you book your tickets online in advance.



Scan the code to book your ticket online.

[www.bernhardt-partner.de](http://www.bernhardt-partner.de)

# B

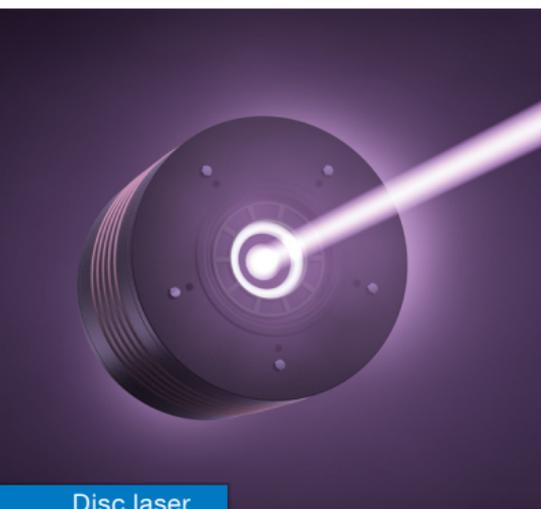
**Bernhardt + Partner**  
**Architekten**

## ESO Supernova

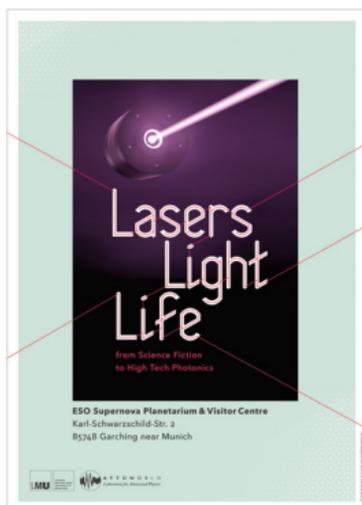
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### Planetarium & Visitor Centre

The ESO Supernova was designed by the architects Bernhardt + Partner. Their office was established in 1994 and is located in Darmstadt, Germany. The team's ability to design eye-catching, memorable science buildings is evident in their past projects, such as the Haus der Astronomie and the EMBL International Centre for Advanced Training (both in Heidelberg).



Disc laser



## Lasers | Light | Life

Light is the engine of life. We are understanding more and more about how to control and use it. Laser technologies are shaping the 21st century and are opening up fascinating technological prospects for us. It all started in 1960, when the laser was invented and a new era of physics began. The laser has long been an indispensable tool in communication, measurement technology, astronomy, medicine, and industry.

This fascinating epoch is presented in the exhibition *Lasers, Light, Life – From science fiction to high-tech photonics*. Designed by the Faculty of Physics of the Ludwig-Maximilians-Universität München (LMU), it provides insights into laser technology from its very beginnings to the present day, and highlights visionary possibilities for its application. In addition to science fiction, the functioning of lasers and their development history, the exhibition presents fascinating areas of basic research at the LMU and the Max Planck Institute of Quantum Optics in Garching.

The possibilities of the laser are far from exhausted. The 21st century is often referred to as the century of the photon – the very particle of light. Follow the path of light through this exhibition!



ATTO WORLD  
Laboratory for Attosecond Physics

Free entry

Date: until spring 2020

Your selfie corner at the

# ESO Supernova Planetarium & Visitor Centre

ESO/P. Horálek

Take a piece  
of the Universe with you!

Bjellux, Sven Rahm Fotografie



Visit our ESOshop,  
located in the foyer and online.

### Unforgettable learning experiences for schools

The ESO Supernova provides unforgettable learning experiences for students of all ages. Professional educators use astronomy to inspire young people and awaken their interest in science and technology, through interactive activities and experiences that will leave a lasting impression. Classes come to the ESO Supernova to discover the wonders of the Universe and to spend time investigating real astronomical problems.

An ESO Supernova educational experience includes interactive planetarium shows, workshops and tours, as well as access to our engaging exhibition. Experiences are adapted to the age of visiting school groups — we welcome students aged 4–18. In addition to our range of family-friendly planetarium shows, we have two specially developed educational shows with strong curriculum links.

We have created six different hands-on workshops tailored to different stages in the school curriculum, from kindergarten to grade 13. Each workshop is linked to the Bavarian curriculum and gives students a fun and interactive experience of what it's like to be an astronomer investigating a real scientific problem. These workshops also demonstrate to teachers how an astronomical context can be used to teach a wide range of curriculum subjects, linking them together in an interdisciplinary way.

A full educational visit lasts between three and four hours. These packages are available in German as well as English. School groups must make advance reservations for workshops, guided tours and planetarium shows. All our educational experiences are **free**.

For teachers, the ESO Supernova offers special teacher training sessions.

Please visit our website for additional information!



Scan to find out more about our education programme.



ESO/P.Horálek



Teacher workshops, events and activities

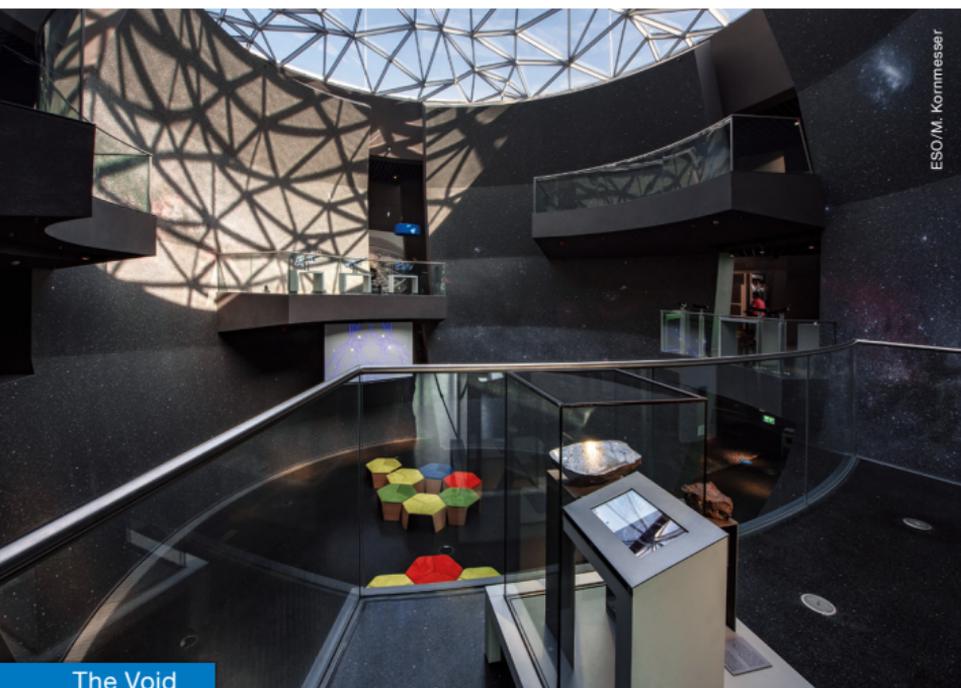
ESO/M. Zamani



The 25-degree tilted planetarium dome gives the audience the sensation of being immersed in the Universe







The Void

The ESO Supernova emphasises the importance of enabling all people to visit our centre and to communicating the wonders of astronomy to all.

All areas of the exhibition are accessible for people with reduced mobility, either via ramps or by elevator. The meeting rooms are barrier free as well and there are chairs and benches throughout the exhibition area. A restroom suitable for wheelchair users can be found in the basement.

Please note that the ramps in the exhibition are quite steep in some places. In case of doubt we recommend taking the elevator to the third floor and experiencing the exhibition from top to bottom.

The entrance to the planetarium is barrier free, and wheelchair users can also take part in our planetarium shows. Please note that rows 2–8 can only be reached via stairs. Please take this into account when booking your seats. We would recommend you reserve two seats in the first row since the seats are quite narrow and your wheelchair may need some extra space.

Our exhibition is largely based on texts and soundless videos, and can therefore easily be visited by people with limited hearing.

To enhance your experience in the planetarium, you can borrow a headset at the reception for a deposit of 5 euros. With the headset you can adjust the volume of the movie yourself. The headsets can also be connected directly to a cochlear implant.



*The Living Universe* exhibition (left); The glass elevator (right)

Please note that the headsets only work for family shows in the planetarium, and not for our educational shows.

Each of our panels is equipped with a QR code. With a mobile phone and an app that can read QR codes, you can download the texts of the panel to your mobile phone which can then read them out to you with a text recognition software.

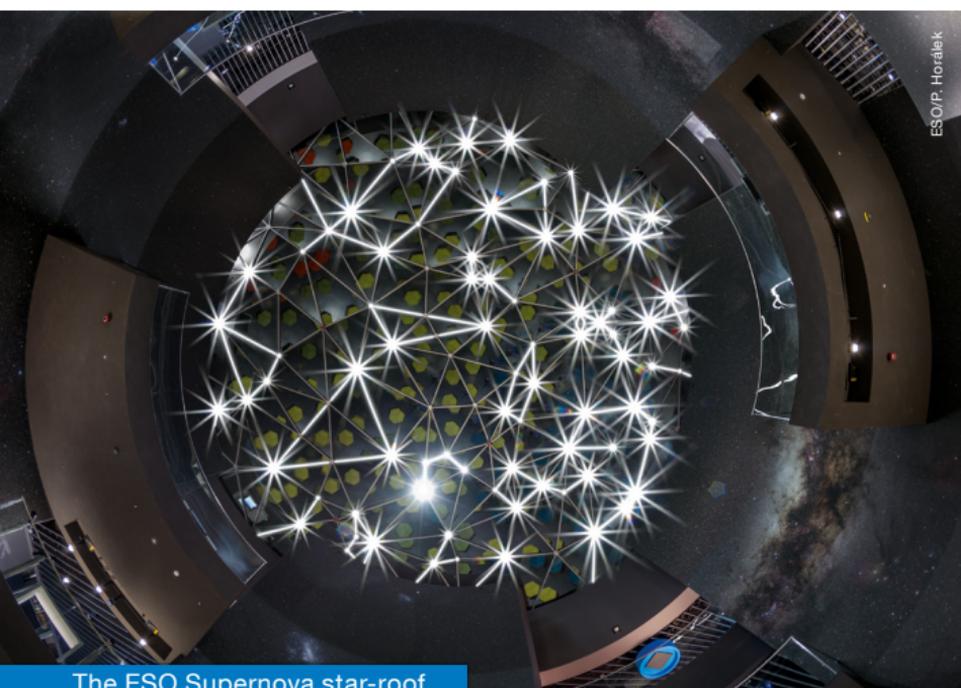
Each panel explains the content in simple form in the Aha! section. Difficult words and long sentences were deliberately avoided here. The Aha! section also has a larger font to make reading the texts easier.

If after reading this information you have any further questions, please send an email to [supernova@eso.org](mailto:supernova@eso.org) before your visit.

If you have any further questions or need support when on site, please do not hesitate to approach one of our staff members or ask at the reception.



Scan the code to see the floor plan of the ESO Supernova.



The ESO Supernova star-roof

### Opening Hours

Monday	Closed
Tuesday	Closed
Wednesday	09:00–17:00
Thursday	09:00–17:00
Friday	09:00–17:00
Saturday	12:00–17:00
Sunday	12:00–17:00

Our opening hours stay the same even if there is a public holiday.

From 23 December 2019 until 31 January 2020 the ESO Supernova is closed.

### Tickets & Reservations

- Planetarium shows: 5 euros/person
- Guided tours: 8 euros/person
- Friday evening events: price varies, please see our programme

Tickets must be booked and paid for online, in advance. Our online system accepts VISA, MasterCard and American Express. Tickets can also be bought on site, at the ESO Supernova. However, we strongly recommend booking online, in advance, as our activities tend to be fully booked on the day. On site, we accept cash, debit/EC and credit cards (VISA and MasterCard).

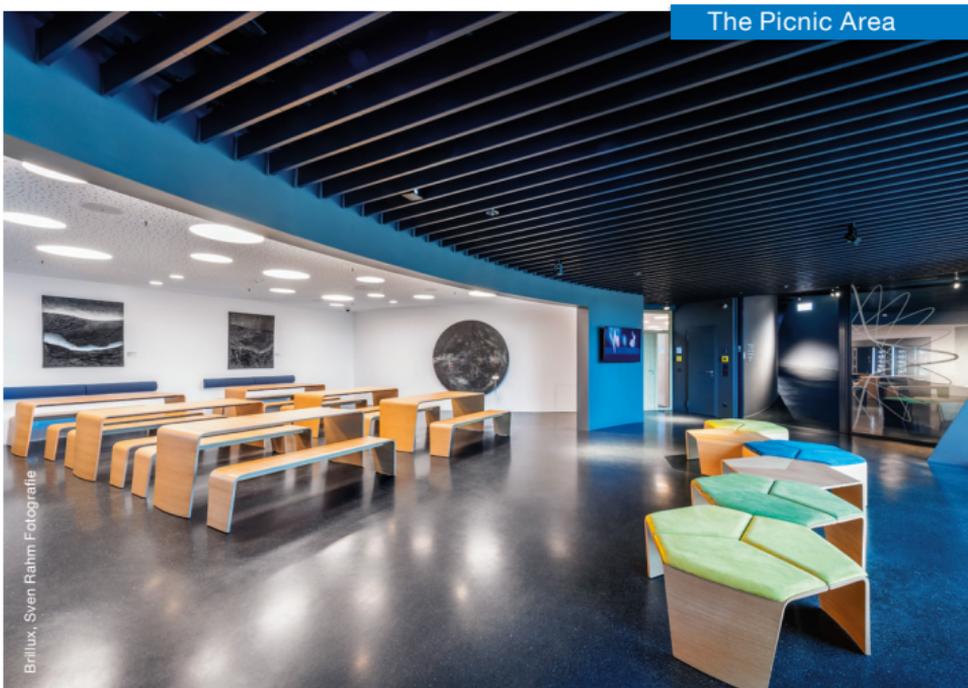
Please arrive at the ESO Supernova and print your ticket from one of our ticket printers. Unfortunately we are not able to offer refunds.

No prior booking is required for unguided visits to our permanent and temporary exhibitions. You can help us keep the entry to the exhibition free for everyone by making a donation of your choice. Donation boxes are located at our reception desk.

Teachers who would like to book an educational workshop or seats for a planetarium show should follow the instructions at: <https://supernova.eso.org/education/>

### Useful Tips

- The ESO Supernova has vending machines with snacks and drinks in the picnic area in the basement, with an adjacent sun terrace. You are also very welcome to use the area to consume food and drink brought from home. Please make sure to bring small change with you for the vending machines.
- No entry to the planetarium is permitted after the doors close. Please arrive at the latest 15 minutes before the show starts. This policy is strictly respected for safety reasons and to ensure the best experience for our visitors.
- Guide dogs are welcome. Unfortunately, no other dogs are allowed, including dogs which can be carried or fitted into bags.
- Any kind of photography, including with a phone, is forbidden inside the planetarium, but it is allowed in the exhibition area. Please avoid using flash so as not to disturb other visitors and be aware that families might not want their children to be photographed.



### How to Get Here

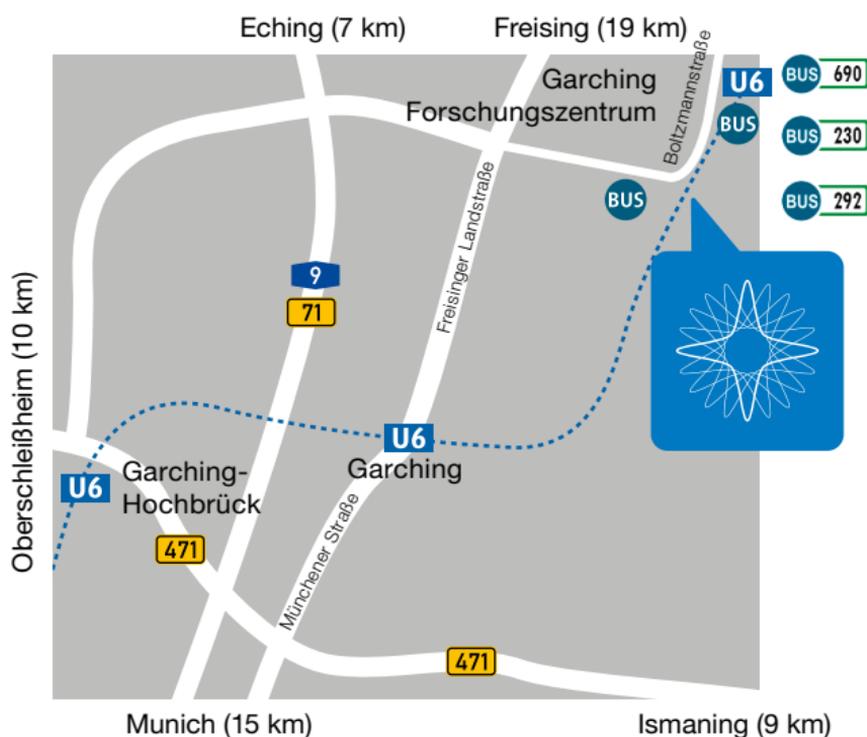
The ESO Supernova is located 2 km north-east of Garching and about 15 km north-east of Munich in the “Forschungszentrum” area.

**GPS:** 48° 15' 36.90" N, 11° 40' 15.16" E

**By car:** Take the A9 exit Garching-Nord (Garching-North), which leads you to the “Forschungszentrum” area. Go straight ahead at the traffic lights. ESO is located in the south-east corner of the campus, which is in front of you as the road turns left.

**By subway:** The ESO Supernova is only four minutes on foot from the final station of the U6 line, Garching Forschungszentrum.

**By bus:** Bus stop on Boltzmannstraße: Bus 292 via Oberschleißheim, Bus 230 via Ismaning and Bus 690 via Eching.



Parking is available in front of the ESO Supernova but we recommend using public transport. Parking for coaches is available behind the main ESO Headquarters building. Please advise us in advance if you will be travelling by coach. Disabled parking is available close to the entrance.

Once you see the ESO logo sign, walk straight ahead and then take the first street right.





ESO/PHorálek

ESO Supernova  
Planetarium & Visitor Centre  
[supernova.eso.org](http://supernova.eso.org)

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The ESO Supernova is a donation from the Klaus Tschira Stiftung.



Klaus Tschira Stiftung  
gemeinnützige GmbH



Heidelberg Institute for  
Theoretical Studies

