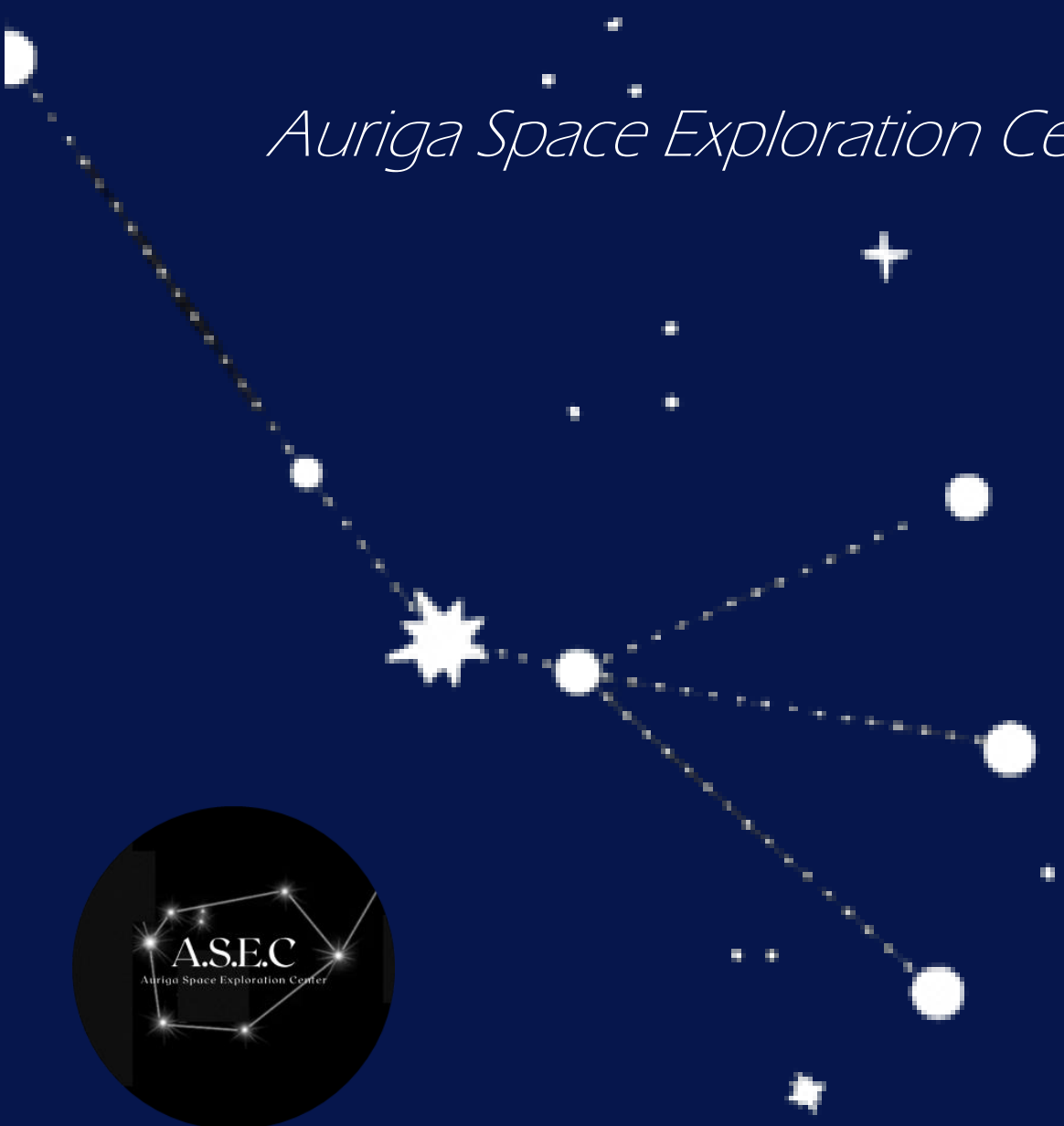
A.S.E.C.

Auriga Space Exploration Centre



Preface

Wissembourg, France, the 26th of March 2023

Ladies and Gentlemen, dear scientist, politics, economists, and enthusiast,

We are very glad to present you this project.

Working on it since a long time now, we are happy to present you the Auriga Space Exploration Centre Project (aka A.S.E.C.).

This project was born of the ambition to discover new things in our Universe. There's a lot of Space Exploration Centre in the world, but ASEC is quite special between them.

Indeed, we are the only one who are working on a centre, dedicated exclusively to the exploration of the "Invisible in the Space".

A lot of questionings are still in the air, and we want now to change that.

Explore the Universe more and more, will allows us to discover a lot of new things in Physics, Chemistry, and Biology.

We hope that you will be invested in our project and that you will help us to achieve it.

Sincerely Yours,

The ASEC project-Team

Summary

The Team

Alan Lebechec
UK | Doctor in Astrobiology and exobiology
Graduated from the NASA Academy

Claire Gaucher
France | Informatic Engineer
Studied as an exchange student in the MIT and graduated from the Polytechnic Institute of Paris

Clarence Martin
India | General Director, Doctor in Physics
Graduated from the Indian Institute of Astronomy and Atomic

Elodie Schneider
Greece | Robotic Engineer
Graduated from the Faculty of Engineering of Istanbul

Florian Hirschler
USA | Engineer in Electrical, Electronics and Communications
Graduated from the MIT

Justine Logel
USA | Doctor in Astronomy
Graduated from the University of Harvard

Laure Kieffer

UK | PhD Student in research

Graduated from English Institute of Science (E.I.S.)

Léa Knobloch

UK | Doctor in Physics specialized in the wavelength and redshift.

Graduated from the University of Oxford

Léo Kreiss

Canada | Doctor in Engineering and Applied Physics

Graduated from the University Illinois Urbana-Champaign

Leo Niess

India | Doctor in Astro-Chemistry

Graduated from the Indian Institute of Technology

Louis Schauinger

UK | PhD Student in research

Graduated from the University of Harvard

Lucas Heimlich

Ireland | Budget Director of the Center, Economist

Graduated from the University College of Dublin

Mathieu Zimmerman

USA | HR Director

Graduated from the University of South Florida

Mathis Archinard

China | Astrophysics Researcher

Graduated from the Polytechnic University of Hong Kong

Müberra Korum

Germany | Administration Director, Engineer in Management

Graduated from the Business & Innovation School of Berlin

Sara El Bouhyaoui

USA | Physicist, specialized in black holes.

Graduated from the MIT

Victor Dieleman

India | Press Communicator

Graduated from the Indian Institute of Telecom Management and from the Institute of Media & communication

Yaëlle Aranda

UK | HR

Graduated from the University of Harvard

Why our team is one of the best in the world?

Our team is an experienced team, with a lot of jobs and specialities. From science to journalism, going through Human Resources and management, we are one of the most qualified team.

We speak more than 6 languages. Therefore, we can collaborate with government and space companies all around the world.

To make this project efficient we need a great Location!

The location is an important factor for the space observing.

A lot of factors should be taken in account.

Therefore, we chose this place:

Animas, 34365 Victoria De Durango, México

What we need:

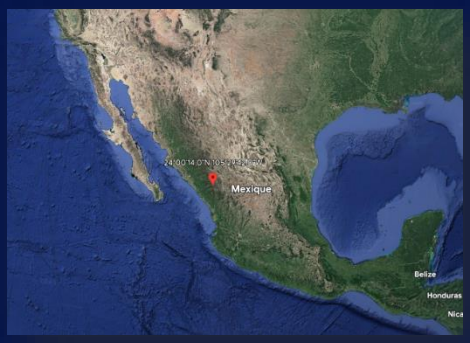
- Optical factors:
  - quality image,
  - Scintillation: variations in the total light flux received by a telescope from a single star
  - Extinction: the loss of light along the path through the atmosphere, due to absorption and scattering
  - Brightness of sky background: scattering of light from celestial source, scattering of light of artificial origin, auroral phenomena
  - Average number of clear night hours per year: all the optical factors have to be expressed in a quantitative way.

- Mechanical factors:
  - Wind: It may cause irregular motions or vibrations of the telescope. The wind may produce turbulence around and inside the dome with impairment of the optical conditions.
  - Temperature: high altitude where low temperatures are to be expected
  - Humidity: Besides its optical properties, the presence of much moisture in the local can lead to condensations on optical parts, refrigerated auxiliary equipment, electrical parts, etc

Linone, near Mazatlan in Mexico

24° 00' 14" N; 105° 29' 42" W

This is the location we choose.



This city has all the optical and mechanical factors

Altitude	~2200m/7200ft
Average wind	5 km/h / 3mph
Average humidity	44%
Average Temperature	20°C / 68°F
Rain rate	900mm/year

Pictures of the Centre

Why should you invest in our project?

Investing in our project will help us make a big step in modern science, as Armstrong said: "One small step for a man and a giant leap for mankind".

His quote applies our situation well because every penny you can give us helps us in our huge project to make the observation of the universe easier.

We want to better understand the universe, we want to analyze a lot of things in space, but we need money to make all of this. (The material like huge telescope is very expensive, you can see it in the part "What we want to see and how? ").

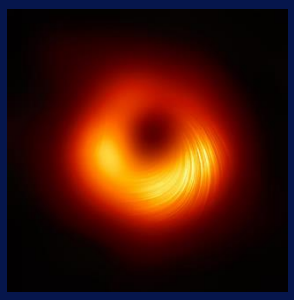
With a lot of knowledge (acquired by observing the universe), we may one day be able to travel anywhere in the universe.

We hope that you want to fund our project and help us!

What we can observe

Blackholes:

A black hole is a place in space where space time bends so much, (which basically means gravity pulls so much) that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny point in space. This can happen when a star is dying and collapses into its core. Because no light can get out, no one can see black holes. They are invisible. Big telescopes with high magnification can help find black holes. With these we can see how stars that are very close to black holes act differently than other stars. We can "see" black holes with radio telescopes, though these must be huge, in fact just about the size of earth like when we used the Event Horizon telescope which is a combination of radio telescopes all across the world which we could be a part of for the next observing missions. If we look at black holes, we could discover how they are created and we could also verify some laws of physics.



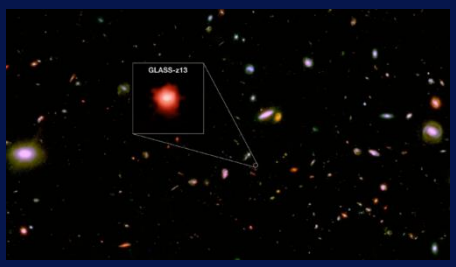
White holes:

White holes are theoretical cosmic regions that function in the opposite way to black holes. Just as nothing can escape a black hole, nothing can enter a white hole. These might be visible with UV or even X Ray telescopes, even though highly unlikely, seeing one would change a lot of things in the scientific world. The existence of white holes could verify the theory of relativity by Einstein or help understand better the luminosity of quasars for example.

Nebulae:

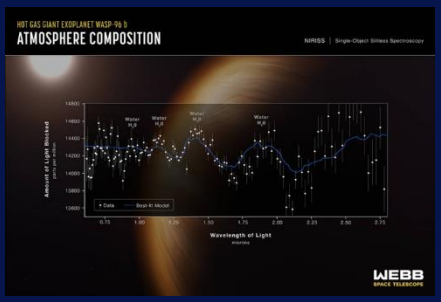
A nebula is a giant cloud of dust and gas "floating" in space. Some nebulae (plural of nebula) come from the gas and dust thrown out by the explosion of a dying star, such as a supernova (nova remnants) or the more common planetary nebulae. Some other nebulae are gigantic regions, where space dust comes together and allows new stars to form. For this reason, some nebulae are called "star nurseries". We want study more nebulae because a lot of new stars are created in them and see that could help us to learn new things about the formation of stars.

Distant galaxies and red shift:



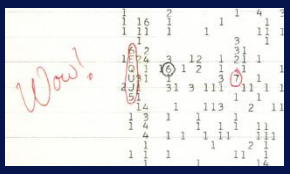
Distant galaxies and red shift: discovered by Edwin Hubble in 1929. This phenomenon basically happens because light from very distant galaxies comes towards earth as waves while the galaxies themselves are actually moving away from Earth. That means the wavelength of light it sends out becomes stretched and shifts toward the red, or spread out, just like when an ambulance travels away from you the waves become farther apart and make a lower pitch. We want to use all these to learn more things about the big bang or maybe prove it wrong.

Exoplanets:



An exoplanet is a planet which is outside our Solar System. They are interesting because we could maybe find a planet where we could live. In order to know more about exoplanets we can use InfraRed telescopes and a technique called spectrophotometry, this works by waiting for a planet to pass in front of its host star and measuring the brightness differences in different light spectrums during this event, this would allow us to know what wavelengths of light are absorbed more or less by the atmosphere of the planet which varies with the composition of the atmosphere which means we could find a planet with a life friendly atmosphere to find life on or to explore in the far future. These observations could allow us to understand how other stellar systems work. It would also help the scientists to confirm their theories about how planets are formed.

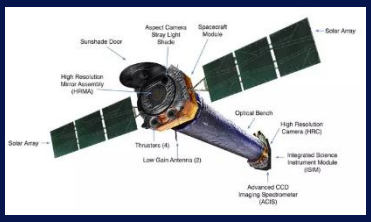
Life outside of earth?



We have no proof of the existence of life outside of the earth, but with a precise and powerful enough telescope we could pinpoint exoplanets that are more likely to develop life, and with a radio telescope and enough patience, maybe, just one day, will we be able to detect intelligent extra-terrestrial life, if they respond to our signals that is. All this equipment will help us to potentially find life.

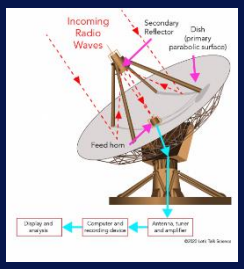
The telescopes

These are the devices we want to buy:



- X-Ray telescope. An x-ray is a short, sharp ray that travels through the atmosphere and is used to see very distant exoplanets and know their composition with their absorbance spectrum.

- The second device is the UV telescope. Ultraviolet line spectrum measurements (spectroscopy) are used to discern the chemical composition, densities, and temperatures of the interstellar medium, and the temperature and composition of hot young stars. UV observations can also provide essential information about the evolution of galaxies. They can be used to discern the presence of a hot white dwarf or main sequence companion in orbit around a cooler star.



- A radio telescope is a specialized antenna and radio receiver.

We use it to study naturally occurring radio light from stars, galaxies, black holes, and other astronomical objects. We can also use them to transmit and reflect radio light off of planetary bodies in our solar system.

- An infrared telescope is a telescope that observes celestial objects in infrared radiation, which is light of lower energy than the visible spectrum. It is use to detect and resolve infrared radiation from sources outside Earth's atmosphere such as nebulae, young stars, and gas and dust in other galaxies

The Budget

Price of the telescopes:

Advices	Prices
X-Ray Telescope	$120.000.000
UV Telescope	$160.000.000
50x50m Radio Telescope	$50.000.000
Infrared Telescope	$82.000.000
TOTAL	$862.000.000

Building costs: $76.860.000 (estimation)

Water consumption and price: $1,8 million m^3/year → $4 million/year

Electricity: our telescopes would consume 18.000kWh per month, which is $3,5millions

Thank you for reading!

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https://website998.wordpress.com