

MAY 2023

# THE CATALOGUE OF SPACE-RELATED FUTURE STARS

MORE INFO :

[www.jointhe.space](http://www.jointhe.space)

[office@jointhe-space.com](mailto:office@jointhe-space.com)



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## ORGANIZER

# JoinThe.Space

## HONORARY PATRONS



## STRATEGIC PARTNER



## MAIN PARTNERS



## SUPPORTING PARTNERS



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PDF publication updates will be available on [www.JoinThe.Space](http://www.JoinThe.Space)

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**IT'S NOT JUST THE CATALOGUE OF SPACE-RELATED STUDENT ORGANISATIONS.  
IT'S A POWER OF NETWORKING.**

**Why?**

Our aim was not only to describe the best student organizations in Europe working on space technologies, but also to organize meetings, to network and have conversations about the industry. We wanted to understand the needs and expectations of young professionals, who are the future of the space industry.

✘ We don't realize any grant, any external project, we are not inspired or pushed by any external company. It is 100% initiative of JoinThe.Space team to improve the knowledge of existing student organisations, create international space networking and make a difference.

**Who?**

✓ We've worked hard for the past 5 months to reach out to active student organizations in Europe involved in space technologies. We've included 80 organizations from 21 European countries in the catalogue, which exceeded our original plans. We're happy about this and believe it will bring positive exposure to these organizations.

**Next steps?**

After publishing the first version of the catalog containing European organizations, we invite teams from all around the world to reach out to us to add their organizations to the catalog. We aim to become the ultimate resource for viewers, companies, media and enthusiasts interested in the space industry and deliver the most updated data for all around the world.

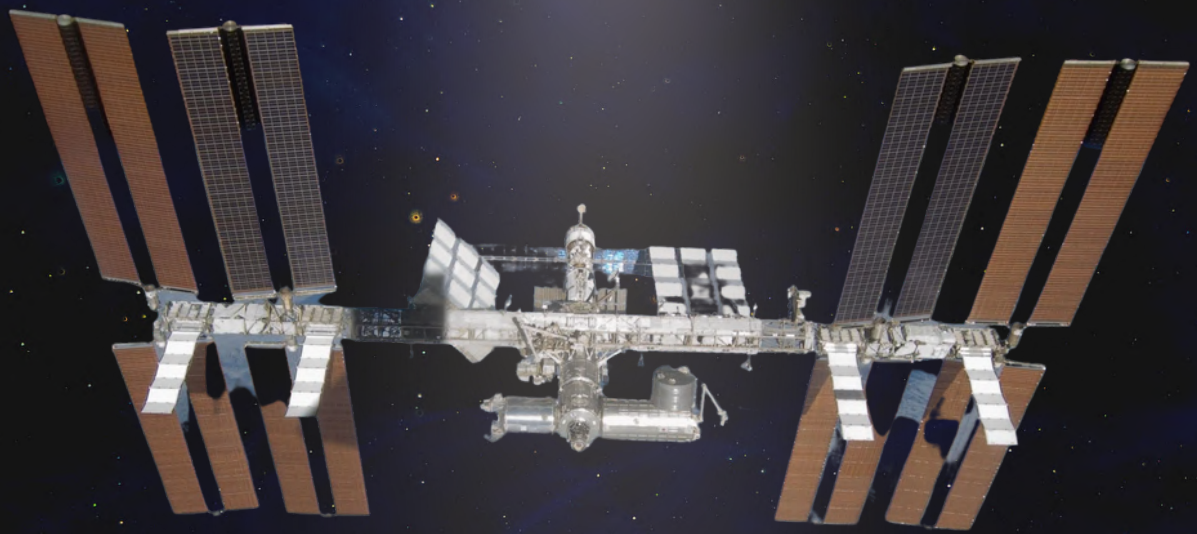
**Want to join the updated catalogue? Contact us: [office@jointhe-space.com](mailto:office@jointhe-space.com)**



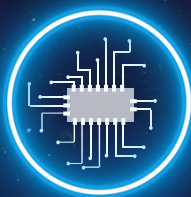
Daniel Płodowski - JoinThe.Space - Founder & CEO  
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# JoinThe.Space



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## SUPPORTING PARTNERS

**PIAP**  
SPACE

### About the company

PIAP Space is a Polish company established in 2017 as a spin-off of the Łukasiewicz Research Network - Industrial Institute for Automation and Measurements (Ł-PIAP). Currently, the owners of PIAP Space are: Industrial Development Agency (IDA) and Ł-PIAP. Since couple of years IDA is active in space sector and invest in companies as well as other undertakings, such as ESA BIC Poland.

PIAP Space has a complete infrastructure to provide services guarantees their continuity and repeatability. The implemented ISO 9001:2015 certified for quality in design, development, manufacturing, assembly and tests, in scope of space technology and robotics.

PIAP Space focuses on two specialisations:

**SPACE ROBOTICS** - it develops technologies and products in the space robotics domain for On-Orbit Servicing and future OSAM missions. PIAP Space has developed robotic arm and grippers - LAR gripper, Multipurpose gripper, 6-axis Force/Torque sensor and vision-based algorithms for close range rendezvous and LAR pose estimation.

**MECHANICAL GROUND SUPPORT EQUIPMENT (MGSE)** - PIAP Space offers various types of devices for the assembly, integration, and testing of satellites and their subsystems. The company has experience in supplying integration adapters (GHA), and Vibration Tests Adapters (VTA). It also manufactures integration stands for a satellite and its panels (PIS, PIT). Besides, the company offers Clamp Bands, Lifting Devices, and Thermal - Vacuum compatible MGSE.

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## SUPPORTING PARTNERS



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INSTITUTE

We support and empower space entrepreneurs  
in competencies and know-how!

[www.space-ei.org](http://www.space-ei.org)  
[sei@space-ei.org](mailto:sei@space-ei.org)

# Liftero<sup>1</sup>

MOVING  
FORWARD

At Liftero, we are at the forefront of the Industry 4.0 revolution, developing cutting-edge in-space transportation technologies. We believe that the space ecosystem is the next frontier for our civilization, with new opportunities waiting to be unlocked.

As part of our mission to build and operate in-space transportation infrastructure, we are developing the reusable orbital transfer vehicle Motus™, an essential building block that can be likened to a truck for ground or an aircraft for air transportation in space.



**JOIN OUR  
TEAM!**

# Contents

Page number	Team region
9	Multinational
12	Austria
13	Czech Republic
14	Denmark
15	France
18	Germany
23	Greece
26	Hungary
27	Ireland
29	Italy
35	Lithuania
36	Netherlands
37	Norway
40	Poland
64	Portugal
69	Spain
72	Switzerland
78	Türkiye
83	Ukraine
85	United Kingdom

\*We are aware that there are many more organizations in the Countries that have not been included in this catalogue, but our aim was to connect and personally talk to the representatives. We hope that in the year-end update, the catalog will contain all organizations from all around the World.

Contact: [office@jointhe-space.com](mailto:office@jointhe-space.com)

\*\*The published content describing the organizations comes directly from the representatives and we, as JoinThe.Space team, were unable to verify it.



# JoinThe.Space Association

OPENNESS TO ALL UNIVERSITIES IN THE WORLD



## ABOUT US

We are a group of young individuals forming a network within the space industry. Our goal is to reach out and visit every university worldwide and provide support to those entering the space job market. We believe that the space industry is for everyone and we aim to organize events, webinars and meetings that will convince participants that the space industry is for them. Our ultimate aim is to inspire people to work in their dreamed companies after completing studies.

## MISSION

Our mission is to increase awareness about working in the space industry, support both young & experienced individuals entering the job market and provide opportunities for expanding their knowledge within the space sector.

## PROJECTS

- Webinars "How to start working in space industry"
- Reports "If the expectation of future space employees are out of the world"
- Catalogue "The catalogue of space-related future stars"

## PLANS

- We want to be a bridge between professionals and companies to allow them to connect each other.
- We want to have a representative at every technical university in the world to improve the understanding of young people needs and help them fulfill their dreams of working in the space industry, so maybe you should contact us asap!



JoinThe.Space



**JoinThe.Space**  
Association

Participants: 15



JoinThe.Space



JoinThe.Space



JoinThe.Space

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[www.jointhe.space](http://www.jointhe.space)

# EUROAVIA

42 UNIVERSITIES IN EUROPE



## ABOUT US

More than 3000 students from 42 universities across 18 countries are represented by EUROAVIA, the European Association of Aerospace Students. Established in 1959, EUROAVIA strives to serve as a bridge between companies, academic institutions, and students. By promoting a set of shared values centred on teamwork, equality, cultural awareness, innovation, hard work, and international networking, EUROAVIA aims to cultivate both current and future leaders. EUROAVIA is a non-profit, apolitical organisation that is exclusively run by volunteer students. Our aims, which are listed as follows, are a clear reflection of the association's values: - Promoting European cooperation in the aerospace field by providing opportunities for our members to meet, exchange and learn at all levels. - Representing internationally European aerospace students. - Acquainting student members with their future working environment by stimulating contacts with the industry.

## PROJECTS

EUROAVIA organises multiple international projects during the academic year. The objectives of these projects are to connect people from the industry with students, as well as developing the technical knowledge and soft skills of the EUROAVIA members:

- Airbus Slicing Rocket Workshop (ASRW)
- Ideathon 2023
- PACE Contest
- Air Cargo Challenge (ACC)
- Future and Beyond

## ACHIEVEMENTS

- EUROAVIA is one of the oldest associations in Europe and was founded 64 years ago.
- More than 3000 members from 42 universities in 18 countries.
- Multiple projects organised aimed to improve the technical skills from the aviation and space industries.



EUROAVIA



EUROAVIA - The European Association of Aerospace Students



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www.euroavia.eu

Participants: 3 000

# Team Tumbleweed

VOLUNTEER RESEARCH ORGANIZATION



## ABOUT US

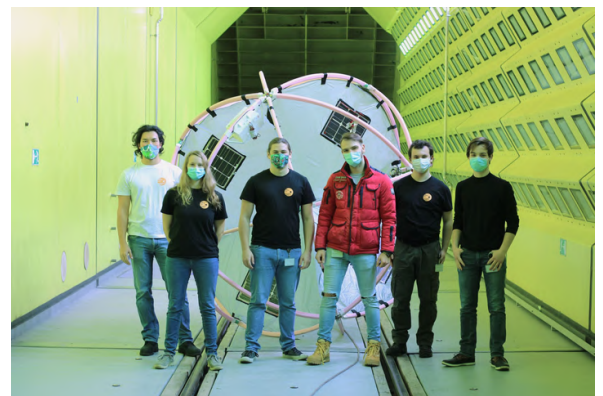
We are an interdisciplinary group of young, entrepreneurial scientists working on the next generation of Mars rovers: the Tumbleweeds. Our subteams range from engineering over business to media, with around 70 members in total. With main branches in Delft (NL) and Vienna (AT), Team Tumbleweed brings together people from over 25 countries. United under our common goal, we think and act globally.

## PROJECTS

As a spherical, wind-driven mobile impactor, the Tumbleweed is a new approach to Mars exploration. Strong winds propel a swarm of the rovers from the Martian pole toward the equator. Along the way, the rovers collect valuable data. With over 5 years of experience building prototypes and learning from big players in the industry, we are working toward our next goal: an Earth Demonstrator prototype.

## ACHIEVEMENTS

Participation in Mars Analogous Missions in the Oman desert (2018) and Negev desert (2021) Total of 19 abstracts accepted for the International Astronautical Congress over 2 years Alumni of ESA Business Incubation Centre Austria



Participants: 70



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# TU Wien Space Team

VIENNA UNIVERSITY OF TECHNOLOGY



## ABOUT US

Managed completely by university students and young adults, the TU Wien Space Team is an independent organization, whose members share a passion for aerospace. Over 150 people spend their free time to work on many different projects, including the development of satellites, rockets and drones.

## PROJECTS

**The Hound:** A two-stage solid motor rocket. It's goal is to reach space - Lamarr: A liquid propellant rocket that will be the successor of the completed project uHoubolt

**Penrose:** This project features a self-developed Hybrid engine

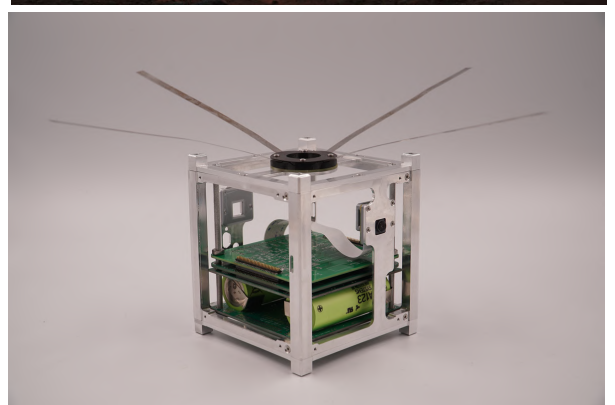
**SpaceTeamSat1:** A CubeSat, developed for educational purposes

**AcrossAustria:** A hydrogen-powered drone, built to fly across Austria completely autonomous

## ACHIEVEMENTS

Projects completed:

- GATE: powerful student built liquid rocket engine (10kN)
- $\mu$ Houbolt: successfully launched and recovered liquid-propellant rocket
- FRANZ: test stand, can handle up to 24 kN



Participants: 150



TU Wien Space Team



TU Wien Space Team



tuspaceteam

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www.spaceteam.at

# Czech Rocket Society

COVERING ALL CZECH UNIVERSITIES



## ABOUT US

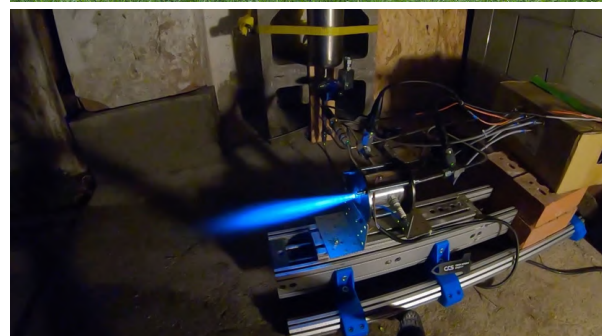
Czech Rocket Society was formed in the Czech Republic in 2021 to follow the example of European rocketry student initiatives. It consists of students and young professionals based both home and abroad. The first national society activities include hands-on STEM experience in rocketry, and also cover areas such as PR and project management to give its members a diverse range of skills.

## PROJECTS

The first project was the Hitchhiker rocket carrying a miniature Tesla Roadster onboard, inspired by the 2018 SpaceX launch. Most notable projects that followed include a micro-satellite launcher Sherpa for the European Space Agency educational competition, or worldwide competition award-winning Cassiopeia thrust vector control project. Now working towards a liquid propellant engine and EuRoC.

## ACHIEVEMENTS

- Two rocket launchers
- Spark Torch Igniter demonstrator
- Wins in competitions (both in the Czech Republic or in China)
- Czech Rocket Challenge organization
- many events, exhibitions, lectures



Participants: 60



Czech Rocket Society



Czech Rocket Society



czechrockets

Polní 358,

based in Prague, Czech Republic

[info@czechrockets.com](mailto:info@czechrockets.com)

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## ABOUT US

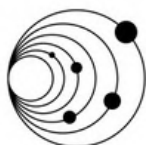
SDU Galaxy is a network of SDU researchers and students interested in space. At SDU Galaxy we create synergy by allowing interactions between space industry, research, and education. As a cross-faculty network we combine engineering, science, and health to conduct research and educate students as well as researchers to improve life on earth by learning in space!

## PROJECTS

There are several projects under SDU Galaxy, working with different branches of space research, technology, and education. The major projects are specifically The Danish Student CubeSat Program (DISCO) which is a multi-university project that works with CubeSat technology and have already sent one into space, RadioStar which works with radioastronomy, and GalaxyRover which works with Rover technology.

## ACHIEVEMENTS

- Establishing a ground station with a VHF/UHF and S-Band antenna array at the University of Southern Denmark
- As a cross-collaboration between Aarhus University, Aalborg University, IT University of Copenhagen, and the University of Southern Denmark, send the DISCO-1 satellite into space
- Construct a prototype Rover



Participants: 28



SDU Galaxy



sdugalaxy

Campusvej 55

5230, Odense M, Denmark

tek@tek.sdu.dk

www.sdu.dk

# CLES-FACIL

INSA LYON



## ABOUT US

We are a student organization, working around rocketry and astronomy. Based in an engineering school, we aim at ambitious projects and try to launch one or more rockets a year. With R&D teams working on mechanical and electronic design, we work on a lot subjects, including aerostructure, propulsion, antennas and radiocommunication, roll PID control and a lot more to come!

## PROJECTS

We are working on three types of rocket:

- Mini rockets, allowing new members to discover the rocketry and the inside of a rocket
- Experimental rockets, build yearly and launching a new experiment every year
- Sounding rockets, entirely developed internally. It is still a work in progress but we aim a first burn within the next years. In addition, we propose many star and planetary observations through the year.

## ACHIEVEMENTS

- Collaboration with key actors in the space sector (CNES, MEDES, Spaceship FR, NASA)
- 9 analog missions in the Mars Desert Research Station
- More than 5 months spent in simulation
- Hundreds of experiences conducted
- Dozens of intervention in high school to talk about space exploration



Participants: 20



CLES-FACIL



CLES-FACIL



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www.cles-facil.asso-insa-lyon.fr

# Estaca Space Odyssey

ESTACA



## ABOUT US

ESO (ESTACA Space Odyssey) is an aerospace association which aims to promote space among students and general publics. Several projects are led every year by the association, experimental rockets, special projects, zero G experiments, weather balloons and telescopes.

## PROJECTS

The ESO club is leading several projects this year, including an experimental rocket called Narval. The aim of the project is to develop a RCS system in order to control the rotation of the rocket. We are also designing a rocket propelled by pressure water, we tend to use 40 bars of pressure and develop our own COPV system. One of the most important projects of our club is the Estaca Space Launcher's. The aim of the program is to develop sounding rockets and its own hybrid propulsion system called NAGA.



## ACHIEVEMENTS

- 3 flights in weightlessness environments.
- Sounding balloons to understand high altitude.
- Bi-liquid engine tested during a static fire, propelled by kerosene and liquid oxygen.
- Rockets launched in USA.
- Articles published during the IAC.
- The Bertha rocket with large dimensions.



Participants: 180



ESO (Estaca Space Odyssey)



estaca\_space\_odyssey

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<https://eso-estaca.fr/>



### ABOUT US

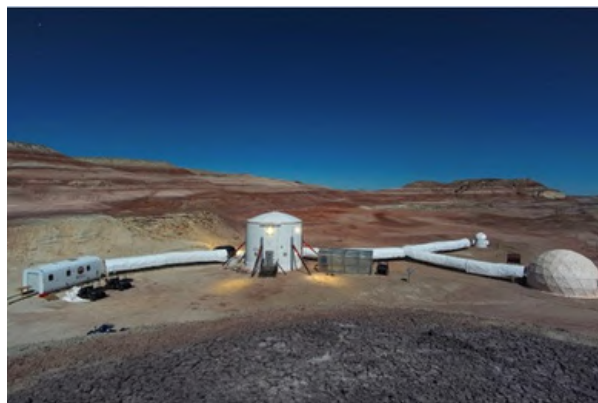
We are a group of passionate students from ISAE-SUPAERO, France's top school for aerospace engineering. Our projects revolve around our shared enthusiasm for human exploration of space. Each year a crew of 7 students is selected to conduct an analog mission in the Mars Desert Research Station located in Utah, USA. The project aims to advance technology for lunar and Martian habitats, inspire the younger generation about space exploration, and enhance the crew's engineering skills.

### PROJECTS

This year, we proudly introduce Crew 293, the selected team for the upcoming mission. From Feb 18th to Mar 16th, 2024, we will embrace the station's challenging environment. We will test innovative technologies to prepare for future moon and mars exploration and assess the physical and psychological impacts of isolation in confined habitats. As we prepare for this unique opportunity, we actively seek for sponsors and experiences to support our mission.

### ACHIEVEMENTS

- Collaboration with key actors in the space sector (CNES, MEDES, Spaceship FR, NASA)
- 9 analog missions in the Mars Desert Research Station
- More than 5 months spent in simulation
- Hundreds of experiences conducted
- Dozens of intervention in high school to talk about space exploration



Participants: 7



MDRS Crew 275 (SUPAERO)



Club Mars ISAE-Supaero



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supaeromdrs@gmail.com

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# BEARS

Berlin Experimental Astronautics Research Student Team

TECHNISCHE UNIVERSITÄT BERLIN



## ABOUT US

We are a group of students from many disciplines, who have come together to research, develop, tinker and test on various projects related to space technology outside of the curriculum. We were founded in May 2022 with the goal of channeling our students' theoretical knowledge into volunteer, hands-on projects to design and build exciting hardware - whether it be sounding rockets, robotics and rovers, space-related science experiments or satellites: we dare to push the limits of what is feasible for students. We are the Berlin Experimental Astronautics Research Student Team. We are BEARS.

## PROJECTS

The Robotics Group is currently working on three projects.

1. LARS, a concept for reanimation in space suits that is going to be tested during the Asclepios Mission III, an analog mission that is designed by students from EPFL in Lausanne in collaboration with professionals from the space industry. The so called Lunar Astronaut Revival System (LARS) is a new approach to perform CPR in case of a cardiac arrest during an extravehicular activity in space.
2. The solar sintering project, which aims to melt lunar regolith with sunlight.
3. A project to build a rover to compete in the European Rover Challenge.

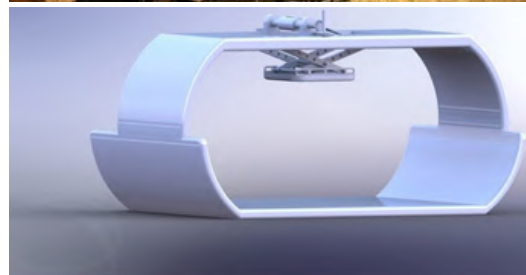
The Experimental Rocketry Group is also working on two projects.

1. Design and launch of a Mach = 1 sounding rocket called STARDUST. The rocket will have a self made  $\mu$ -G Experiment on board as payload. STARDUST is planned to be launched around Fall 2023 and is designed to reach an altitude of 3 km.
2. Design and test of a LOX/Ethanol 3kN liquid rocket engine.

The ultimate goal is to use this self-made engine for future self-made sounding rockets. The science and experiments group is designing a cold gas thruster to use it for future satellites of TU Berlin.

## ACHIEVEMENTS

- Qualified for European Rover Challenge 2022
- Self-designed and successfully launched a sounding rocket reaching an apogee of 635m



BEARS e.V.



bears.space

Participants: 30

Marchstraße 12-14,

D-10587 Berlin, Germany

[www.bears-space.de](http://www.bears-space.de)



### ABOUT US

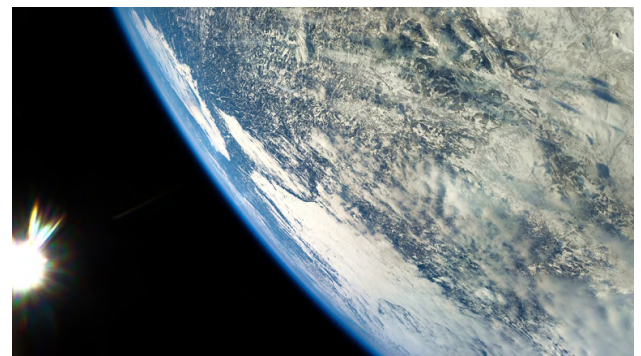
Hybrid Engine Development - HyEnD is the student rocketry team of the University of Stuttgart. Founded in 2006 and located at the Institute of Space Systems (IRS), HyEnD has focused on the development of hybrid rocket engines and the corresponding rocket systems. Hybrids were chosen because of their inherent safety. They use safe, easily available, storable and manageable propellants and deliver comparably good performance.

### PROJECTS

HyEnD participated twice in the STERN (STudentische Experimental-RaketeN) program of the German Aerospace Center (DLR). This program provides funding for university groups to develop and launch a rocket within a time frame of three years. For both participations, HyEnD developed a smaller demonstrator rocket (MIRAS, Compass) to test the technology as well as a larger sounding rocket (HEROS, N2ORTH) which was launched from Esrange, Sweden.

### ACHIEVEMENTS

- Set the European Altitude Record for Student-built Rockets & World Record for Student-built Hybrids in 2016 with HEROS 3 (32 km altitude)
- Broke these records again in 2023 with N2ORTH (64 km altitude)
- Developed and tested one of the world's most powerful & advanced Hybrid Rocket engines with HyLIGHT (Max. Thrust 15kN, Total Impulse 267 kNs, ISP 230s)
- Developed a liner-less Type V pressure vessel used as oxidizer tank of N2ORTH (Volume 160L)



Participants: 80



HyEnD e.V.



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## ABOUT US

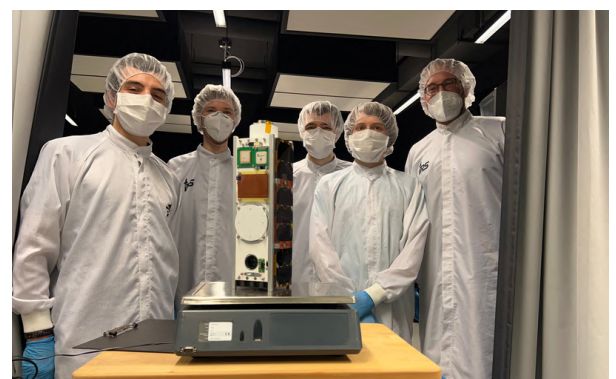
KSat e. V. (small satellite student society at the University of Stuttgart) is a non-profit organization founded in the spring of 2014. The more than 160 members are students of all semesters, mostly enrolled in aerospace engineering. The association is open to students of all disciplines. Our goal is to give our members the opportunity to realize their own spaceflight project during their time at university. Furthermore, we aim to pass on the knowledge and enthusiasm for space travel as part of our public relations work and to provide a communication platform between students, interested companies of the industry, research and the public.

## PROJECTS

- SOURCE (Stuttgart Operated University Research Cubesat for Evaluation and Education) is a 3U+ CubeSat we develop in cooperation with the Institute of Space Systems of the University of Stuttgart. In addition to technology demonstrations and earth observation, it uses high-resolution sensors to measure the earth's upper atmosphere. Numerous students have already gained valuable practical experience while working on the project, making the educational aspect of the mission quite a success. SOURCE is scheduled to launch in 2024.
- FerrAS (Ferrofluid Application Study) deals with the use of ferrofluids to solve technical problems in space. FerrAS is our fourth experiment in the REXUS program.
- FARGO
- BUBBLE (BUoyancy Balloon Bus Lifted Experiments)

## ACHIEVEMENTS

- 2 ISS experiments
- 4 REXUS missions
- Numerous students have gained practical experience
- 6 successful balloon launches to the stratosphere



Participants: 160



Small Satellite Student Society of the University of Stuttgart - KSat e.V.



ksat\_stuttgart



KSat\_Stuttgart

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www.ksat-stuttgart.de



## ABOUT US

Here at TUDSaT, we're designing, manufacturing and flying sounding rockets and CubeSats to get hands on experience and work towards a common goal of science, exploration, and honestly a lot of fun!

## PROJECTS

CubeSat [TRACE]

- design, build, remote control, manage

Rocket [FRoDO]

- climbing higher and faster to participate at EuRoC

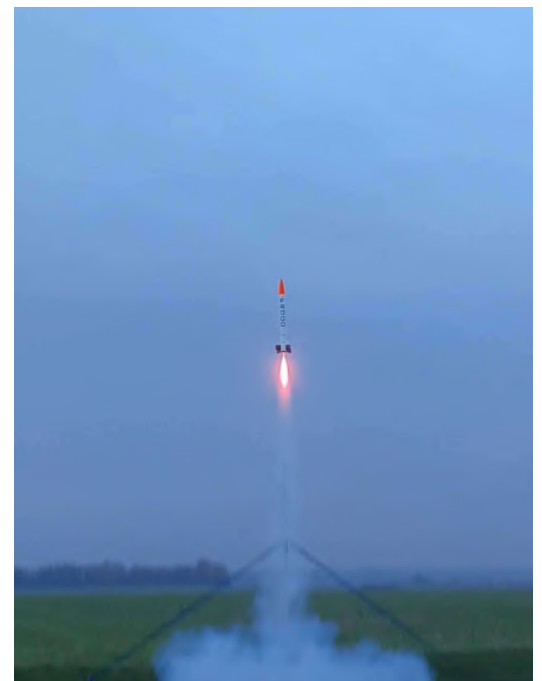
CanSat [TBD]

- What are rockets without scientific payloads?



## ACHIEVEMENTS

- Participated at ESA's "Fly Your Satellite"
- Secured DLR sponsorship
- Finished TRACE's PDR
- Started setting up our ground station
- FRoDO maiden flight
- Partnered with DARE for next flight



Participants: 140



TU Darmstadt Space Technology e.V.



TUDSaT



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[www.tudsat.space](http://www.tudsat.space)



### ABOUT US

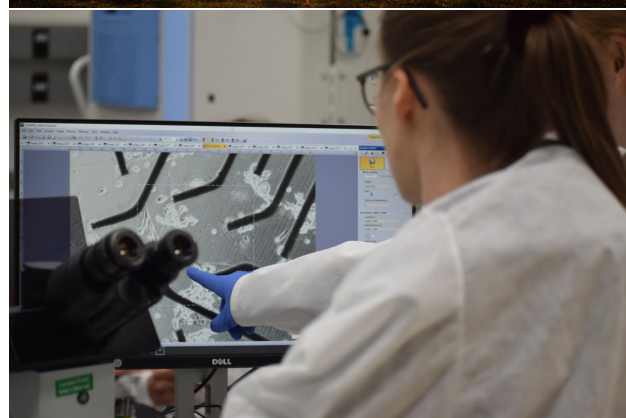
WARR is the German abbreviation for Scientific Workgroup for Rocketry and Spaceflight. Our association was founded in 1962 and is officially registered as a non-profit organization since 2015. Our projects are completely self-organized by students to gain practical experience and further knowledge next to their various studies. To cover all parts of space technology we currently have five different teams: rocketry, move, exploration, spacelabs and spaceelevator.

### PROJECTS

1. Rocketry: Cryogen hybrid and bi-liquid rockets designed, manufactured and tested by students.
2. Move: 3 satellites in orbit, space debris measurement with currently built 6U CubeSat.
3. Exploration: Current rover with solar sintering lens to build structures on Luna surface.
4. Spacelabs: Microgravity biology experiments like Alzheimer research on the ISS and clinostat on earth.
5. Spaceelevator: Building climber prototypes for sustainable access to space.

### ACHIEVEMENTS

- Largest space technology student group in Germany
- Taking part in student competitions like DLR Überflieger 2, European Rover Challenge, EUSPEC, SAC and EUROC
- Own ground station for satellites
- Practical educations for students for over 60 years



## ABOUT US

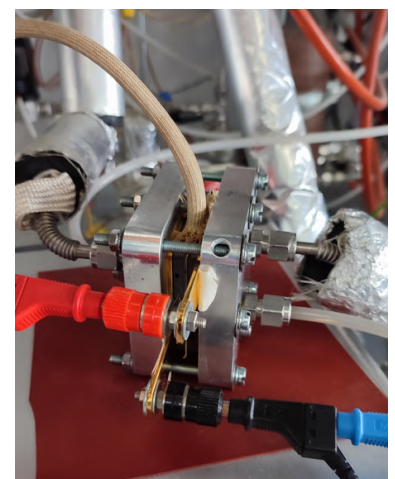
The team comprises a group of university students who share a common goal of designing and building a hydrogen fuel cell. Their ultimate aim is to participate in the REXUS program. REXUS, Rocket Experiments for University Students, is a sounding rocket. In 1995, SSC Esrange invited students from the Swedish Institute of Space Physics in Kiruna to fly experiments in the sounding rocket GPS-Orion-Rocket which they renamed REXUS. Four more REXUS rockets were launched between 1995 and 2007 when an agreement was signed between DLR and SNSB (now SNSA) marking the beginning of the REXUS/BEXUS programme. The competition offers an opportunity for students to put their scientific knowledge and creativity to the test by designing and launching their own experiment to the edge of space onboard a sounding rocket or high-altitude balloon.

## PROJECTS

The team's focus on building a hydrogen fuel cell. With this experiment the team demonstrates their commitment to sustainable energy and renewable technologies. Hydrogen fuel cells have the potential to revolutionize the energy industry by offering an environmentally friendly and efficient source of power. By participating in the competition, the team is not only gaining valuable experience in engineering, space research and project management, but also contributing to the development of new and exciting technologies that could benefit society in the future. After the competition the team aims to build a healthy and friendly environment for future university students teams that are going to hold their own research.

## ACHIEVEMENTS

Being a new entrant team, our successes so far have focused on the part of finding funding from official university and external private sectors.



# Beyond Orbit

NATIONAL TECHNICAL UNIVERSITY OF ATHENS (NTUA)



## ABOUT US

Beyond Orbit is a Greek non-profit organization dedicated to providing opportunities to students (undergraduate, graduate, and Ph.D.), young scientists, and engineers, in taking part in projects that combine space with innovation. One of the main goals of Beyond Orbit is to create a pan-hellenic community of individuals, universities, and companies thus advancing space exploration in Greece.

## PROJECTS

Beyond Orbit carries out project Beyond Robotics, a team of 70 engineering students and graduates with diverse backgrounds, including mechanical, electrical, and software engineering, that aspires to design and build a space rover in order to participate in the European Rover Challenge of 2023. The team is working under the auspice of the National and Technical University of Athens.



## ACHIEVEMENTS

- Presented our team in an event organised by Beyond Orbit, the Hellenic Space Center, Corallia, and the Hellenic Ministry of Digital Governance
- Granted auspice from the National Technical University of Athens
- Completed the preliminary and detailed design of our rover
- Began equipment purchasing, testing, and assembling
- Successfully registered for the European Rover Challenge 2023



Participants: 70



Beyond Orbit



Beyond Robotics



beyond\_robotics

Aiolou 73, Monastiraki, Athens,  
Greece, 10551

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[www.beyond-orbit.org](http://www.beyond-orbit.org)



# Aristotle Space & Aeronautics Team

ARISTOTLE UNIVERSITY OF THESSALONIKI



## ABOUT US

Aristotle Space & Aeronautics Team constitutes the largest aerospace research student team in Greece, operating under the auspices of the Aristotle University of Thessaloniki (AUTH). The first step in this effort was taken by 12 undergraduate students of AUTH's Mechanical Engineering Department, in 2015, that founded the Aeronautics Department. ASAT is supported by the Laboratory of Fluid Mechanics & Turbomachinery (LFMT) of the Mechanical Engineering Department of AUTH, under the auspices of which it operates since its establishment.

## PROJECTS

ASAT conducts scientific research with two technical departments: Aeronautics and Rocketry. The research field of the Aeronautics Department is the development of Unmanned Aerial Vehicles (UAVs), which includes the aerodynamic and structural design of an aircraft along with the development of innovative and autonomous avionics systems. The main vision of the Rocketry Department is developing high power rockets and surrounding technologies. Currently the team is upbrng a project towards the earth's stratosphere.



## ACHIEVEMENTS

- 12th place in Air Cargo Challenge 2017 with UAV Nephelle 2
- 12th place in Air Cargo Challenge 2019 with UAV Nephelle 3
- 10th place in Air Cargo Challenge 2019 with UAV Aurora
- 9th place in Air Cargo Challenge 2022 with UAV Aeolus
- 13th place in Spaceport America Cup 2022 with high powered rocket Andromeda
- 7th place in European Rocketry Challenge 2022 with high powered rocket Andromeda
- The first and only Greek student team that managed to successfully launch two high-powered rockets during its participation in the above competitions, in the years 2021 and 2022.



Participants: 50



Aristotle Space &  
Aeronautics Team (ASAT)



ASAT - Aristotle Space &  
Aeronautics Team



asat\_auth

Division of Hydraulics & Environmental  
Engineering, AUTH,  
Thessaloniki 546 36, Greece  
info@asat.gr  
www.asat.gr

# BME Aerospace Team

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS



## ABOUT US

BME Aerospace Team is an innovative, dedicated and highly motivated rocketry team whose members have been developing sounding rockets since 2019. They set a Hungarian altitude and European student speed record (Mach 2.2) with their latest supersonic sounding rocket launch from Hungary in January 2023.

## PROJECTS

BME Aerospace Team is developing a supersonic sounding rocket called Aether S Mk 2 in 2023. The rocket will be a 3-meters-long, solid propellant vehicle with an apogee of 9 000 meters and will carry scientific payloads.

## ACHIEVEMENTS

- EuRoC 2022 4th place in the 9 000 m category
- EuRoC 2022 3rd place of the Payload Award category
- Hungarian student rocket altitude record (7 000 m)
- European student rocket speed record (Mach 2.2)



Participants: 24

 BME Aerospace Team

 BME Aerospace Team

 bmeaerospace

1111 Budapest, Műegyetem 1-3

Budapest, Hungary

[aero@bmeaerospace.hu](mailto:aero@bmeaerospace.hu)

[www.bmeaerospace.hu](http://www.bmeaerospace.hu)

# Astronomy Society

UNIVERSITY OF GALWAY



## ABOUT US

The Astronomy Society of University of Galway is for any and all students with an interest in astronomy or astrophysics - whether studying or just curious. We aim to make astronomy accessible to everyone, regardless of your prior knowledge on the subject. We hold events every week which offer opportunities to explore and learn about the wonders of astronomy.

## PROJECTS

We formulated and helped create MOPSI (Meeting Of Physics Societies - Ireland) which, as the name suggests, was a nationwide meeting of all college-level physics societies.

We organised and carried out a trip for the students in our college to visit and tour CERN, it was a great success and we hope to do it again in the near future.

## ACHIEVEMENTS

- Won best departmental society of the University of Galway - 2018
- One of the fastest growing societies in the university of Galway in 2023
- Granted silver status by the Institute of Physics



Participants: 110



NUIG Astronomy Society



astrosoc\_ug



nuigastrosoc

University Road

Galway, Ireland

Astronomy@socs.nuigalway.ie

# Space and Robotics Club

DUBLIN CITY UNIVERSITY



## ABOUT US

DCU Space and Robotics Club is all about our name! We love taking part in Space and Robotics related activities of all sorts. In the past we've built drones, robotic rovers, 3D printers, and even rockets. We've also gone on astrophotography hikes, visited Iceland to see the northern lights, stargazed in Tenerife, and much much more. Whatever projects or activities SPARC is doing we make sure to cater for all expertise levels, it doesn't matter if you've never done Astro photography or used a telescope before - we'll show you! Despite the shadow of COVID throwing some of our projects into a hiatus, we've got every intention to be active while restrictions are in place with safe, fun, and interesting events that we'll be able to have go ahead even with restrictions in place!

## PROJECTS

Each year the club grows and we always have big plans to engage and excite our members - DCU SPARC has rocket launches, exciting trips, advanced robotics projects, along with more of everything we've done in the past planned for what promises to be an amazing year ahead!

## ACHIEVEMENTS

- Star Gazing - Trip to Iceland to view the Northern Lights. Trip to Tenerife where an astrophotography hike was performed for Stargazing.
- Rocket Launches - Where we Launched a miniature Rocket and performed a safe landing with use of parachutes.
- Workshops- This is when the club gets together to discuss prior discoveries or to adapt/modify to make it better. Just like reinventing the wheel.



Participants: 34



DCU SPARC



sparc\_dcu



dcu\_sparc

Dublin City University,

Dublin 9, Ireland

dcu.sparc@gmail.com

# DIANA

## POLITECNICO DI TORINO



### ABOUT US

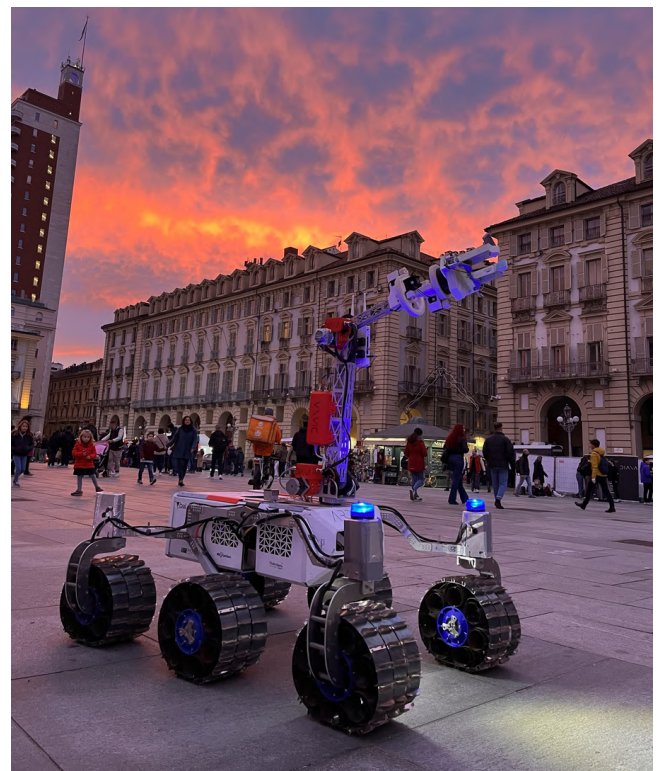
DIANA aims to bring space robotics applications to Politecnico di Torino by developing and prototyping technology demonstrators of space rovers for astronauts' assistance and support. The Team is a talent incubator, students build advanced knowledge of robotics. All of this is possible through intense collaboration with many companies. DIANA is active in numerous research fields and counts many publications gained during the years.

### PROJECTS

DIANA leading project is ARDITO, a rover technology demonstrator designed to provide astronauts' assistance in future human mission on other celestial bodies. ARDITO is a strongly modular platform based on a rock-bogie like locomotion system and equipped with a 6DOF arm. DIANA has developed a total of 5 Rovers since 2008 the first one was designed for compete in the Google Lunar X Prize.

### ACHIEVEMENTS

DIANA during the years achieved his goal by: teaching and inspiring young space passionate students; gained several research papers; managed to maintain know how and build rovers through 15 years of students participating in team activity and graduating.



Participants: 80



Team DIANA



Team DIANA



team\_diana\_polito

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Torino, Italia

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www.teamdiana.it

# CubeSat Team Polito

POLITECNICO DI TORINO



## ABOUT US

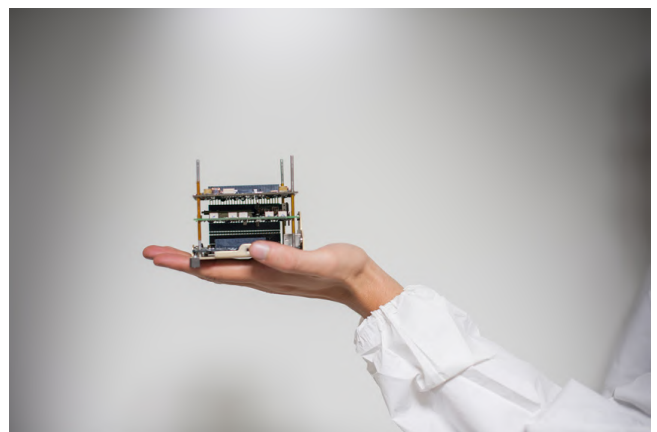
CubeSat Team Polito is a student team whose main purpose is to design small satellites and develop technologies related to the industry.

## PROJECTS

At the moment, the team is implementing and testing its ground station (CubeSat Control Centre, C3) and is designing a new space mission including a 3U CubeSat.

## ACHIEVEMENTS

- Launch of e-st@r-I in 2012, first 1U CubeSat launched by the team;
- Launch of e-st@r-II in 2016, second 1U CubeSat launched by the team;
- Launch of SpeiSat in 2023, 3U CubeSat developed in collaboration with the team;
- Installation of C3 (CubeSat Control Center), ground station developed by the team.



Participants: 35



CubeSat Team Polito



CubeSat Team



cubesat\_team

Corso Luigi Einaudi, 40,

Torino, Italy,

[cubesat.team@polito.it](mailto:cubesat.team@polito.it)

[www.cubesat-team-polito.com](http://www.cubesat-team-polito.com)

# ProjectRED

UNIVERSITÀ DI MODENA E REGGIO EMILIA



## ABOUT US

Project RED was born in 2019 by a group of students from the Department of Engineering Sciences and Methods (DISMI) of Reggio Emilia , passionate about robotics and the aerospace sector. The main activity of the Team, supported for the current year by funding from DISMI (15k €) and by industrial partners through the supply of components, is to design and build a rover prototype for extraterrestrial exploration with which to compete 'European Rover Challenge. In addition to the student component, Project Red is supported by Professors from the Department of Engineering Sciences and Methods as Faculty Advisors . Working on a large-scale, multidisciplinary project, such as Project RED, offers students the opportunity to extend their knowledge in the fields of mechanical, electronic and control design, but also the possibility to exercise essential transversal skills in the world of work, such as teamwork , collaboration , and the ability to manage complex projects.

## PROJECTS

The team has three main goals: firstly, be as reference to students who are passionate about robotics and aerospace, to let them practice what they have studied in their engineering courses, because of limitations of university laboratory activities; secondly, create a hub to establish links between students and local companies, so students can be provided by learning instruments not available in university, while industries can keep in touch with academic research developments and future potential engineers; finally, design and build a Rover prototype for extraterrestrial exploration to test students' knowledge and ambition by meeting teams from all the world in competitions like the European Rover Challenge. The team currently has more than fifty members, who are all students.

## ACHIEVEMENTS

- In 2021 lots of new members joined the team and we participated for the first time to Remote formula at the ERC 2021, reaching the 9th place.
- At the beginning of 2022 our own rover prototype was build and the team planned to participate to both the On-site and Remote formulas of ERC 2022.
- At ERC22 we got the first participation to On-site formula, reaching the 16th place.
- At ERC22, the team took part again to the Remote formula (the one team to join both formulas at the ERC22), winning the third place of the competition.



Participants: 30



ProjectRED



Project RED



project\_red\_dismi

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Reggio Emilia, Italy

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www.projectred.it

# Sapienza Rocket Team

LA SAPIENZA - UNIVERSITY OF ROME



## ABOUT US

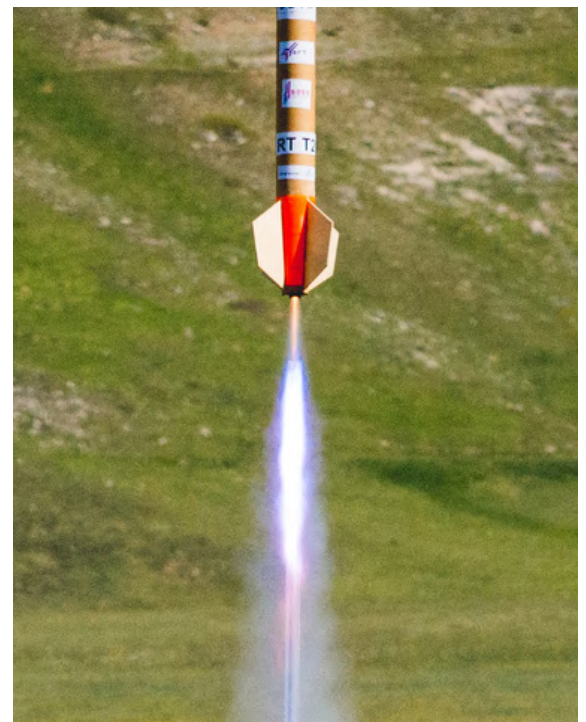
Sapienza Rocket Team is one of 4 Teams of the Sapienza Aerospace Student Association (SASA). With a mission to design, build, and launch sounding rockets, this Team of ambitious students has been making steady progress toward their goals. Born in 2018, SRT has grown to 200 members with diverse backgrounds. It is divided into 8 departments, responsible for different aspects of the rocket.

## PROJECTS

Sapienza Rocket Team has established a Training Academy to provide hands-on experience to new members. After that, members can specialize in one of the team's departments to develop their skills and expertise further. The main goal of the team is currently developing its first sounding rocket made of carbon fiber and fiberglass, capable of reaching supersonic speed, to participate in EuRoC 2024.

## ACHIEVEMENTS

- Launch of the team's first rocket in 2021
- Achieved a height of 1 km with a sounding rocket in 2022.
- Grew from just three members in 2018 to over 200 members in 2023.
- Established a training program for new members Developing a hybrid rocket motor.



Participants: 205



SASA: Sapienza Rocket Team



sapienza\_rocket\_team

Via Eudossiana, 18

Rome, Italy,

rocket-team@sasa-aerospace.it





### ABOUT US

Safety and Environment monitoring with Atmospheric sensors and Localization Systems

### PROJECTS

The project deals mainly with rescue and localisation operations using drones and balloons, but also with analysis and remote sensing in the agricultural and environmental fields. We are currently developing two research strands: the location of buried under avalanches and the evaluation of the vegetative index of crops.



### ACHIEVEMENTS

- Launch of the team's first rocket in 2021
- Achieved a height of 1 km with a sounding rocket in 2022.
- Grew from just three members in 2018 to over 200 members in 2023.
- Established a training program for new members Developing a hybrid rocket motor.



Participants: 7

 [seals.project](https://www.instagram.com/seals.project)

Via Venezia 1  
Padova, Italy,  
[averlaproject@gmail.com](mailto:averlaproject@gmail.com)

# Skyward Experimental Rocketry

POLITECNICO DI MILANO



## ABOUT US

Skyward Experimental Rocketry is a student association of the Politecnico di Milano, founded in 2012, which brings together more than 150 students from different engineering faculties, with the aim of designing, building, and launching experimental sounding rockets.

Our mission is to build a reality in which the students of the Politecnico community can be free to safely express and realize their creativity and potential.

## PROJECTS

From 2012 to today with 9 active launches, Skyward has always tried to improve. In the last two years, in parallel with the development of rockets (Pyxis 2022, Lynx 2021) for the Euroc competition, we have entirely designed a hybrid engine. This year for the first time we will integrate the engine into the new Gemini rocket

## ACHIEVEMENTS

Italian rocketry record

Euroc21: Team Award

Euroc21: Flight Award for the 3km Solid Motor category,

Euroc21: 2nd place in the general classification (Euroc Award)

Euroc22: Technical Award

Euroc22: RF Award

Euroc22: 1st in the general classification (Euroc Award)

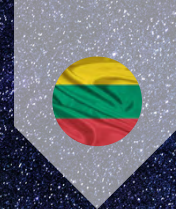


Via Privata Giuseppe La Masa, 22,  
20156 Milano, Italy  
info@skywarder.eu  
www.skywarder.eu

# Arcturus

## KTU Aeronautics and Space Club

### KAUNAS UNIVERSITY OF TECHNOLOGY



#### ABOUT US

KTU Aeronautics and Space Club „Arcturus” is an organization that unites people who want to be not only on earth, but also to learn more about the vastness of the sky. We invite everyone who wants to join and is interested in space, aviation and related topics.

#### PROJECTS

Educational events on aviation and astronomy.

#### ACHIEVEMENTS

Educational events on aeromodeling for elementary school, highschool and university students. Excursions to the observatory of Molėtai. Astronomical observing



Kaunas, Lithuania

[ktu.arcturus@gmail.com](mailto:ktu.arcturus@gmail.com)

Participants: 15

# Delft Aerospace Rocket Engineering

DELFT UNIVERSITY OF TECHNOLOGY



## ABOUT US

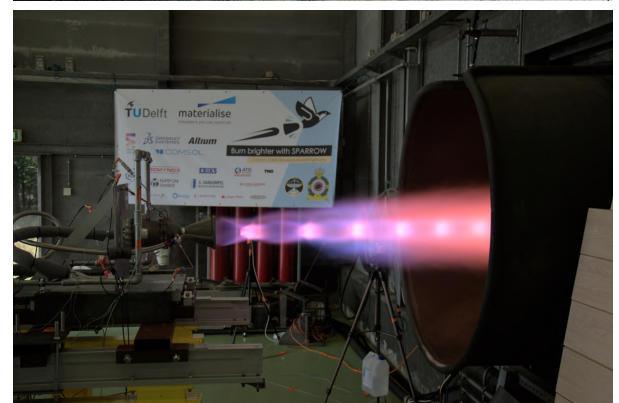
Established in 2001, Delft Aerospace Rocket Engineering (DARE) is one of the most advanced student rocketry societies in the world. DARE aims to enable students to gain hands on experience in the field of rocketry by facilitating the development of cutting edge technologies in order to break records.

## PROJECTS

DARE carries out a wide variety of projects within the field of rocketry and rocket science from (solid, liquid, hybrid and electric) propulsion projects to recovery, electronics and avionics projects. DARE is also involved in education, being the launch provider for the Dutch CanSat competition as well as providing first-year BSc students with hands-on experience with our Small Rocket Project.

## ACHIEVEMENTS

- Successful development and testing of a cryogenic liquid bi-propellant rocket engine with Project Sparrow
- Deployed the fastest European parachute at Mach 2.8 with the SPEAR team on REXUS 28
- Launch provider for the Dutch CanSat competition



Participants: 185



Delft Aerospace Rocket Engineering



Delft Aerospace Rocket Engineering



daretudelft

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www.dare.tudelft.nl

## ABOUT US

We are a technical student organization at the University of Oslo. We give students the opportunity to work on real space-related projects without prior experience. Here, theory and practice is combined to solve real problems fast and cheap.

The new generation of orbital rockets is rapidly reducing the cost of access to space. We hope to prepare and inspire you to take your part in the new space industry. We don't know what the future of space travel will look like, all we know is that we want to be a part of it.

## PROJECTS

Building and launching Norway's first liquid-fueled rocket. But more importantly, we are giving students the opportunity to grow and learn new, valuable skills.

## ACHIEVEMENTS

In 2021, we built a liquid-fueled rocket engine and carried out an successful static test. After expanding our organisation in 2022 with more members and static tests, we are getting ready to launch.



Participants: 25



Portal Space



portalspaceno

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[www.portalspace.no](http://www.portalspace.no)

# Propulse NTNU

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY



## ABOUT US

Propulse NTNU is a student rocketry team that gives students hands-on experience with engineering projects. Going beyond the work as a regular student, gaining experiences that strengthens them as engineers. The final product reaches thousands of kilometers an hour in a matter of seconds, reaching higher than the tallest mountains, far into the sky - all built by students in their spare time!

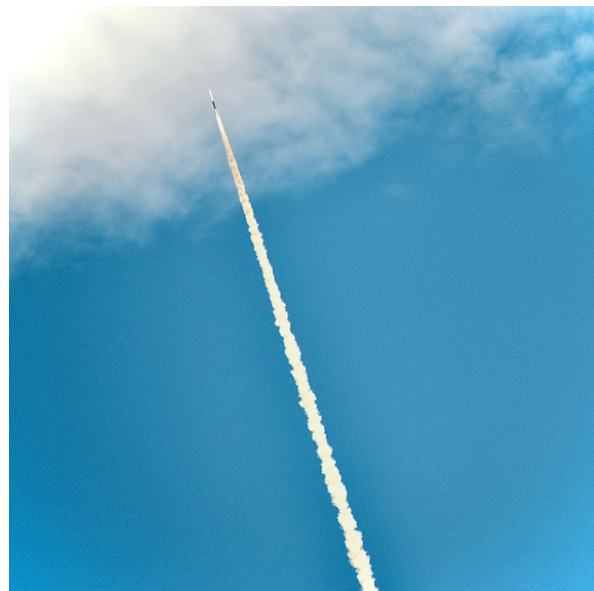
## PROJECTS

- Project Sleipner - Our first rocket and the first Nordic rocket to launch at the Spaceport America Cup
- Project Stetind - Our first supersonic rocket. Won 30K Cots Class (2nd overall) at SACup 2021 with a top speed of 2205 km/h
- Project Birkeland - 2nd place (3rd overall) in 30K Cots Class at SACup 2022
- Project Bifrost - Propulse's 5th rocket, a yet to fly student-researched bi-propellant liquid engine



## ACHIEVEMENTS

- First nordic rocket to launch at Spaceport America Cup
- 1st place 30K COTS Class and 2nd place overall at Spaceport America Cup 2021
- 1st place 9000m Solid Class at EuRoC 2021
- 2nd place 30K COTS Class and 3rd place overall at Spaceport America Cup 2022



Participants: 66



Propulse NTNU



Propulse NTNU



propulsentnu

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7037 Trondheim, Norway  
[contact@propulsentnu.no](mailto:contact@propulsentnu.no)  
[www.propulsentnu.no](http://www.propulsentnu.no)



## ABOUT US

We are designing and building one of the fastest and cheapest small satellites that will launch annually. Orbit NTNU creates the next generation of space engineers by ensuring that all members are working hands-on on challenging flight hardware and inspiring space projects. Failure is the expected part of the learning process, and we encourage our members to experiment and challenge themselves beyond their comfort in our safe environment. Our organization is growing fast, and we have doubled our number of members during the last year.

We launched our first satellite, SelfieSat into space with Falcon 9 25th of May 2022. The satellite is still, one year after taking astonishing pictures daily from space. We are currently developing 4 satellite projects simultaneously, with the goal of having one satellite in each development phase at all times: BioSat, FramSat-1, FramSat-1.5, and just starting FramSat-2.

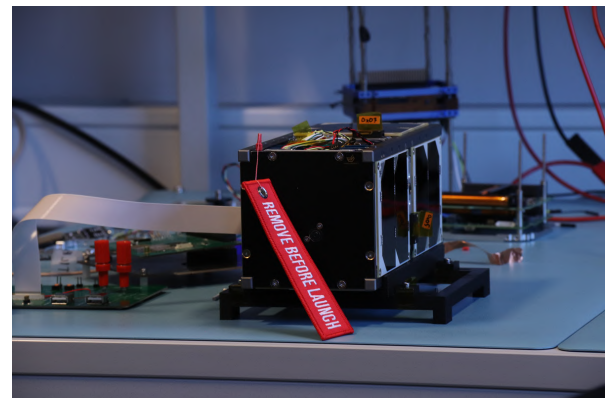
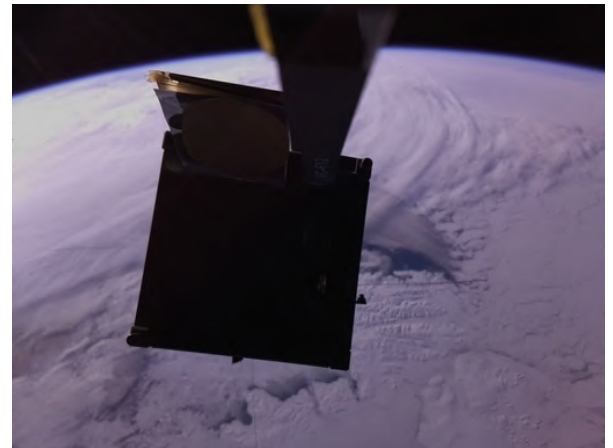
## PROJECTS

Orbit NTNU is a crucial part of the new space industry and New Space by having the lowest industry costs while still outperforming yesterday's solutions. We want to bring space closer to home.

- FramSat-1 and FramSat-1.5
- BioSat
- SelfieSat
- SubOrbital

## ACHIEVEMENTS

- Launching our first satellite, SelfieSat, in May 2022, becoming the first operational student satellite in Norway.
- Building and designing SelfieSat, an in-house developed satellite exclusively by students that can take selfies from space.
- Awarded a free launch on Isar Aerospace's Spectrum first and second launch for two of our satellites, FramSat-1 and FramSat-1.5.
- Got contact with SelfieSat as the first Norwegian student organization and the 4. satellite operator from Norway to get contact with their satellite.



Participants: 103



Orbit NTNU



Orbit NTNU



orbitntnu

O. S. Bragstads Plass 2B, 7034

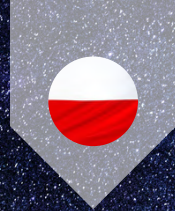
Trondheim, Norway

[contact@orbitntnu.com](mailto:contact@orbitntnu.com)

[www.orbitntnu.com](http://www.orbitntnu.com)

# AGH Space Systems

AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY



## ABOUT US

AGH Space Systems is a student association established in 2014 at AGH University of Science and Technology, dedicated to developing space industry technologies. They build rockets, planetary rovers and stratospheric balloon gondolas. Unwavering commitment and enthusiasm have led them to numerous international achievements, positioning them as a prominent force in the realm of space exploration.

## PROJECTS

The team develops innovative projects, including the 3-TTK hybrid-engine rocket and Turbulence, Poland's first student-built liquid fuel rocket. They create planetary rover Kalman, equipped with autonomous navigation and science modules. Additionally, they research space aquaponics for soilless food production and study the effects of cosmic radiation on human cells with stratospheric balloons.

## ACHIEVEMENTS

Our latest achievements:

- Indian Rover Challenge 2020 - 1st place
- Spaceport America Cup 2022 - 3rd place
- University Rover Challenge 2022 - 4th place
- European Rover Challenge 2022 - 1st place
- International Rover Challenge 2023 - 1st place



Participants: 87



AGH Space Systems



AGH Space Systems



aghspaceystems

aleja Adama Mickiewicza 30,

30-059 Kraków, Poland

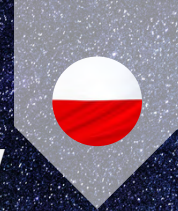
spacesystems@agh.edu.pl

www.spacesystems.agh.edu.pl



# Astrobiology Section

Students Naturalists Association of the Jagiellonian University  
JAGIELLONIAN UNIVERSITY



## ABOUT US

Astrobiology Section is a dynamically developing part of the Student Naturalist Association. Members represent diverse fields of science, not only biology but also astronomy, physics, chemistry and many others. Section's activities focus on networking, science education and popularisation. Our topics of interest include extremophiles, tardigrades and the origin of life.

## PROJECTS

The list of ongoing activities includes lectures, debates and meetings with scientists involved in astrobiological research. To broaden our knowledge we regularly conduct literature workshops, where we familiarise ourselves with the most recent astrobiological publications. We reach out to people outside of academia by publishing educational videos and organising events during science festivals.

## ACHIEVEMENTS

- Life and Space conference - poster
- Continuous collaboration with analog astronauts
- Building a network of connections with other astrobiological student associations
- 13 lecture meetings and 5 literature workshops during 3 academic semesters



Participants: 28



Sekcja Astrobiologiczna Kóło  
Przyrodników Studentów UJ



sekcja\_astrobiologiczna\_kpstuj

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sekcja.astro@gmail.com

# Astrophysical Student Research Club

GDANSK UNIVERSITY OF TECHNOLOGY



## ABOUT US

Astrophysical Student Research Club of GUT (AKN) is a young and dynamic organization founded in 2021 by students at Politechnika Gdańska. Our activities cover a wide range of topics, from engineering and science projects to the popularization of space related science. Some of our past projects include "Modified model of NASA Mars Oxygen ISRU (MOXIE) experiment" and we are currently working on a stratospheric science experiment "ZIGGY". Our goal is to conduct experiments in astrophysics, create more space engineering projects, participate in national and international competitions and promote this field of science. We are always open to new members and partnerships with other organizations of this type. You can follow us on Facebook or Instagram to learn more about our work and events!

## PROJECTS

- "ZIGGY" - Is a directional X-RAY radiation detector basend on scintillators and SiPMs. It's engineered to examine the orientation of a spacecraft only by analyzing X-RAY radiation.
- "Modified model of NASA Mars Oxygen ISRU (MOXIE) experiment" - Is our take on recreating MOXIE experiment.
- Sending "Paulownia tomentosa" and "Paulownia Shan Tong" seeds to stratosphere.
- Series of visits to space observatories for our members with a goal of learning about astronomy and astrophotography with the intention of future projects involving astrophotometry.



## ACHIEVEMENTS

- "Modified model of NASA Mars Oxygen ISRU (MOXIE) experiment" - Studencka Konferencja Kosmiczna 2022
- Organizing multiple space events such as "Observe the Moon" and space related lectures.
- Participating in multiple science events, such as "Piknik Fahrenheita 2023" or "Bałtycki Festiwal



Astrofizyczne  
Koło  
Naukowe.



Astrofizyczne Koło Naukowe  
Politechniki Gdańskiej



akn.pg

Participants: 73

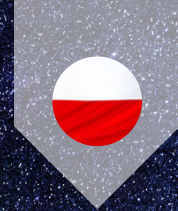
Ul. Narutowicza 11 /12,

80-233 Gdańsk, Poland

astrofiz.pg@gmail.com

# Bekker Team

WARSAW UNIVERSITY OF TECHNOLOGY



## ABOUT US

The Bekker Team research club was established several years ago at the Faculty of ACME WUT. From the beginning, it was inspired by the achievements of Mieczysław Bekker. The research club focuses on development and research related to mechanical engineering, robotics and propulsion systems. At the turn of 2020, the students, led by PhD Damian Markuszewski, decided to reactivate the Bekker Team. As a team, members have no experience, but are ambitious and committed.

## PROJECTS

Currently the club has three projects including rover MB-191 for ERC, rover MB-mini for autonomy tests and drone. The rover MB-191 has a durable frame made of carbon fiber sandwich structure, carbon fiber reinforced rim and rocker-boogie suspension. The rover MB-mini is a 3D printed miniature of a larger rover with six steerable wheels and its own mobile app. The drone project is a new project, the task for the drone is to autonomously take pictures.

## ACHIEVEMENTS

- The rover MB-191 can ride up stairs
- Frame weighing 7kg can carry a load of over 70kg
- Rim weighing 600g can withstand a load of 200kg
- Manipulator is designed to carry 5kg load
- The rover MB-mini can scan the environment and avoid obstacles



Participants: 23



BekkerTeam



bekker\_team

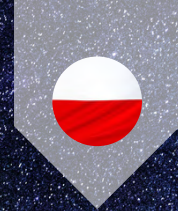
Narubutta 84

Warsaw, Poland

kn.bekkerteam.simr@gmail.com

# COSMODRILL Student Research Club

AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY



## ABOUT US

The student research club, Cosmodrill is broadly concerned with space mining. We are particularly interested in issues such as lunar drilling and lunar geology. In the team we have geologists, drilling engineers, mathematicians, mechanics and physicists. We are currently involved in projects in which we are studying the properties of ilmenite, and lunar soil analogs for future lunar missions.

## PROJECTS

Currently, the scientific research club is engaged in the study of the properties of ilmenite (a mineral with the chemical composition of  $\text{FeTiO}_3$  - iron-titanium oxide) as a material that is a valuable reservoir of the helium-3 isotope on the Moon, and also to test the possibility of recovering helium-3 from ilmenite under lunar conditions. The research indicates a way to recover titanium and iron from ilmenite under lunar conditions using hydrogen reduction. An additional advantage is the possibility of recovering oxygen from ilmenite under lunar conditions.

In addition to the work described above, we are also engaged in a way to vitrify or harden ilmenite, in order to use it as a building material under lunar conditions.

This October we are organizing the third Cosmodrill Space Day conference within the walls of AGH University. It will be a pleasure to meet there together.



## ACHIEVEMENTS

- Recovering oxygen, helium-3, titanium and iron from ilmenite



Participants: 10



Cosmodrill AGH

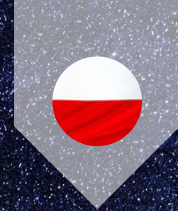


Cosmodrill

Adama Mickiewicza 30 ave

Kraków, Poland

cosmodrillkn@agh.edu.pl



## ABOUT US

Our scientific association focuses mainly on GIS technologies - we interpret knowledge about the world and nature using maps we create. The activities we do are related to natural and computer sciences, which we consider future-oriented and extremely important for overall development. We try to obtain knowledge needed to create projects ourselves by going to the field, which is a great advantage of GISoteka.

## PROJECTS

All members share a passion for natural sciences, which we try to analyze and interpret using GIS tools. We do it to popularize science and more - by creating our own maps or games, we want to show how many possibilities GIS technologies allow. All the information we use, we try to obtain ourselves, in the field. All this makes our strengths: workshops, trips and projects with hand-made analyses.

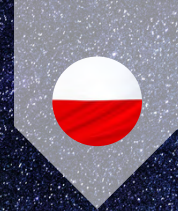
## ACHIEVEMENTS

- Newtonroom Project organized by Boeing & Incubator Starter
- Obtaining a drone license by members
- GIS related games made by members
- Workshops on the use of GIS tools
- Workshops & publication on the use of metropolitan land
- Co-organization of the Tri-City GISday



# IMPULS Mars Rover

KIELCE UNIVERSITY OF TECHNOLOGY



## ABOUT US

We work in five subteams, each dealing with a different aspect of the current project. All the work is supervised by Laura Staniszewska, the team leader, who is responsible for the organization of work and duties. Our team has been engaged in designing and constructing Mars rovers for various international competitions since 2014.

## PROJECTS

The projects that we worked on included the design and construction of two rovers, upgrading them to meet the demands of changing tasks. We are focusing on developing autonomous algorithms, which allow the robot to perform different tasks autonomously, and working on the Rover being able to travel challenging terrain, including loose rocks, and soft sand. Currently We are working on new rover



## ACHIEVEMENTS

Our achievements include:

First place:

- European Rover Challenge 2018, 2019, 2021
- University Rover Challenge 2019

Second place: European Rover Challenge 2014, 2016

Third place: University Rover Challenge 2018

Fourth place: European Rover Challenge 2022

Fifth place: • University Rover Challenge 2022



Participants: 10



Impuls Mars Rover

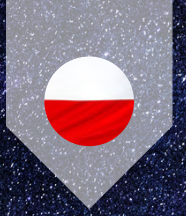


impulsmarsrover

al. Tysiąclecia Państwa Polskiego 7,

25-314 Kielce, Poland

impuls.rover.team@gmail.com



## ABOUT US

GeoSiN consists of 6 active members, operating at the UWM at the Faculty of Geoengineering. The members of the circle are mostly students of "geodesy and cartography" or similar. Recently, the organization celebrated its 11th year of operation. The basic tasks of GeoSiN include: the acquisition and processing of GIS, GNSS and other measurement data.

## PROJECTS

Recently, we have been mainly working on two projects related to air pollution sensors and street lighting levels at pedestrian crossings.

Regarding the air quality sensors, we have been developing data acquired from self-assembled particulate matter sensors and analyzing the quality of the sensors themselves. We plan to compare them with more professional air quality measurement stations in the city, as well as pollution maps from satellites.

For the second project related to street lighting, it involves collecting data from light sensors in smartphones and analyzing which areas of the city have poorly lit pedestrian crossings.

These are mainly GIS tasks, involving the development of spatial data and their visualization, as well as analysis.

## ACHIEVEMENTS

- Geomatics and satellite navigation;
- GNSS measurements;
- UAV data collection;
- Point cloud processing and 3D modelling;
- Working with GIS data



Participants: 6



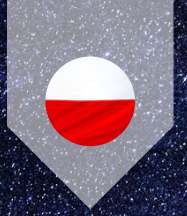
MKN GeoSiN

Heweliusza 5,

10-719 Olsztyn, Poland

[mkn.geosin@uwm.edu.pl](mailto:mkn.geosin@uwm.edu.pl)

[www.geosin.pl](http://www.geosin.pl)



### ABOUT US

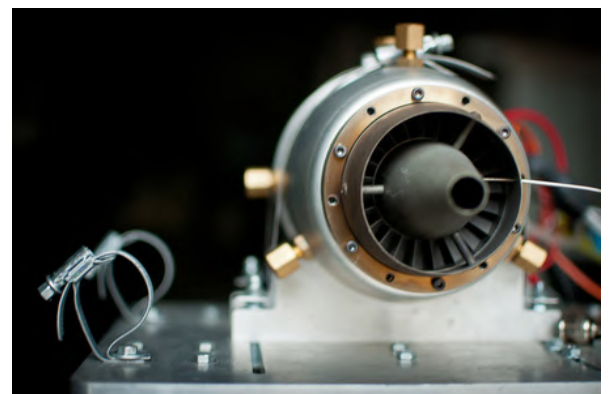
KNN MELprop is a student club based in the Warsaw University of Technology that focuses on the field of propulsion. The club is dedicated to advancing knowledge and expertise in the design, development, and application of various propulsion technologies. Members of the KNN MELprop come from various fields of study, such as aerospace, mechanical, electronics, IT, and other disciplines.

### PROJECTS

KNN MELprop designs and constructs aerospace propulsion systems. In doing so, we cooperated with top Polish military and non-military aerospace institutions. We develop the first Polish liquid rocket engine, innovative turbojet with 3D printed metal parts, advancing monopropellant thrusters, a hybrid rocket engine and the various pulsejets as well as the first Polish supersonic ramjet engine.

### ACHIEVEMENTS

- First Polish Ramjet engine powered rocket
- First student's Liquid Rocket Engine
- Monopropellant thruster
- Hybrid rocket engine
- Testing fuel injectors made using additive manufacturing technologies (SLS) in the jet engine
- Making various pulsejet engines



Participants: 50



KNN MELprop



KNN MELprop



knmelprop

Nowowiejska 21/25,

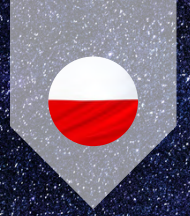
Warsaw, Poland

kn.melprop@pw.edu.pl



# Scientific Group of Space Engineering

UNIVERSITY OF ZIELONA GORA



## ABOUT US

We are an interdepartmental Scientific Group at University of Zielona Gora. Our group started in autumn 2020 with initiative CBK PAN. We're associating people that are interested in space who want to do what they like the most with interesting people. We plan to participate in international rover competitions and increase space knowledge among the local community.

## PROJECTS

Our main purpose are constructing universal semi-autonomous rover with robotic arm for international rover competitions. Second main project is series of high altitude ballons with scientific equipment like an air sampler. We also engage to educate young people within the European Solidarity Corps in terms of electronics, coding and astronomy.

## ACHIEVEMENTS

- Winners of competitions "Klakson II - Impuls do Innowacji" and "Klakson III - Impuls do Innowacji"
- Success in two high altitude missions
- Twice win in European Solidarity Corps



**KNIK**  
Kolo Naukowe Inzynierii Kosmicznej UZ



Koło Naukowe Inżynierii Kosmicznej  
Uniwersytetu Zielonogórskiego



knik.uz

Participants: 27

Szafrana

Zielona Góra, Poland

uzknik@gmail.com

<https://knik.spaceregion.eu/>

# Koło Naukowe Optoelektroników (KNO)

MILITARY UNIVERSITY OF TECHNOLOGY



## ABOUT US

The KNO is a scientific club of the Institute of Optoelectronics located at the Military University of Technology in Warsaw. Optoelectronics science Club currently has a dozen IOE student members. The scope of activities of the KNO covers the issues of optoelectronics, chemistry, materials engineering, automation and control, safety engineering, electronics and telecommunications.

## PROJECTS

Recent projects carried in KNO are:

- Stratospherical balloon - we just started working on the project which goal is to create and launch stratospherical balloon with scientific mission connected to measuring UV radiation at different altitude, its goal is also to learn and test doing data transfers for a long distance,
- Software for solar system objects detection from photos of night sky - another project that we are working on is software that is capable of detecting solar system objects by comparing two images of the same fraction of night sky.
- Experience from both of current projects are going to be an entry for future CubeSat mission performed by KNO.

## ACHIEVEMENTS

- Third prize in iCAN competition in 2019
- Participation in analogue space mission in Analog Astronaut Training Center,
- Participation in rocket workshops, Creation of CanSat picosatellites,
- Participation in various scientific conferences, for example: Conference of Student Astronomy Circles, OPTO 2020 and 2019, ChemSession'19 and many more,
- Participation in multiple editions of the "Festival Meteora" festival,



Participants: 20

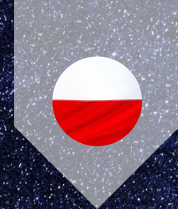


Koło Naukowe  
Optoelektroników

gen. Sylwestra Kaliskiego 2,  
00-908 Warsaw, Poland

# Robotics Science Circle (KNR)

BIALYSTOK UNIVERSITY OF TECHNOLOGY



## ABOUT US

KNR was established almost twenty years ago and consists of three sections: LEGO, SUMO team Sumomasters and rover analogues team Białystok Dynamics. With LEGO components, we create diverse structures. The SUMO robot section deals with the construction of robots created to fight in a ring on the model of Japanese sumo competitors. Białystok Dynamics team includes mechanics, electronics engineers, programmers and scientists, which enables them to create rover analogues.

## PROJECTS

Sumomasters builds robots in the Mega, Nano and Micro SUMO categories. The Białystok Dynamics Team is involved in the construction of mobile robots for exploration Dzik, Dzik2, linefollower robots and the modernisation of the Argo3 rover. In addition, Sii is helping us to develop autonomous driving. Both sections take part in Best of the Best 4.0 project. The MegaSumo robot project with an innovative modular front blade and the project for an innovative integrated drive for the Mars rover analogue is funded by our University.

## ACHIEVEMENTS

- 2 times special award for the Dzik and Dzik2 in the Innovations student category at the international Maker Robotics Challenge 2023 Thailand
- ROBOmotion 2021 in Rzeszów
- 2 in the Lego Onion House
- EastROBO 2021 in Białystok
- 2 place in the Lego SUMO
- 1st 2nd place Robotex International 2022, Tallinn, Estonia
- 2nd place at the 2018 CIRC Canada - 1st place All Japan Robot-Sumo Tournament 2017, Tokyo, Japan



Participants: 40



Rzuć wszystko i chodź robić robota



bialystok\_\_dynamics

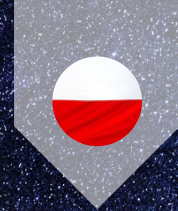
ul. Wiejska 45C

Białystok, Poland

j.tolstoj-sienkiewicz@st.pb.edu.pl

# Legendary Rover Team

RZESZOW UNIVERSITY OF TECHNOLOGY



## ABOUT US

LEGENDARY is a group of highly talented students of three different faculties of Rzeszow University of Technology:

- The Faculty of Mechanical Engineering and Aeronautics,
- The Faculty of Electrical and Computer Engineering,
- The Faculty of Chemistry.

Together, we carry out a research project related to designing and building a Martian rover analogue, to take part in prestigious, international competition - University Rover Challenge. The event takes place at the research center, simulating the Mars environment (Mars Desert Research Station, Utah, USA). Apart from fulfilling the requirements of URC Organizers, we are guided by our own idea - in the future, we want our solutions to be applied in different areas of science and industry, eg. arms industry.

## PROJECTS

Our scientific circle works on Rzeszów University of Technology. Team gathers almost 40 members from different divisions of University. Thanks to many members talented in different ways we can create something special. Our biggest project is creating martian rover being able to fulfill tasks from helping astronaut, performing precision tasks to take soil samples and examin them if there is any sign of life in them.



## ACHIEVEMENTS

- University Rover Challenge 3th place (2014)
- University Rover Challenge 1st place (2015)
- University Rover Challenge 1st place (2016)
- International rover design challenge 2nd (2021)
- International planetary aerial systems challenge 1st 2021



**LEGENDARY**  
RZESZOW UNIVERSITY OF TECHNOLOGY

Participants: 40



Legendary Rover Team



Legendary Rover



legendaryrzeszow

al. Powstańców Warszawy 12

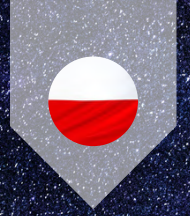
35-959 Rzeszów, Poland

team.legendaryrover@gmail.com

www.legendaryroverteam.com/

# PCz Rover Team

CZESTOCHOW UNIVERSITY OF TECHNOLOGY



## ABOUT US

The team consists near 15 students from different faculties of our University. We have experience in machine design, electronics, mechanical, project management, software development, biology and artificial intelligence. We participated in almost all rover's challenges. The team gives many presentations for young people from schools and participates in thematic events gathering science enthusiasts all around the country. Our biggest achievement is 1st place in University Rover Challenge 2018 in the USA - the most prestigious rover's competition in the world.

## PROJECTS

Our main project is current rover. That rover is 7th vehicle of our team and is called Modernity 3. Previous ones are: Modernity 2+, Modernity 2, Modernity, Infinity 3, Infinity 2, Infinity 1. In the future we would like to design an own drone and application to drive rover via VR goggles.

## ACHIEVEMENTS

- 1st place URC 2018
- 3rd place URC 2017
- 4th place URC 2019
- 4th place ERC 2015
- 6th place URC 2015
- 6th place ERC 2014
- 10th place URC 2016
- 10th place URC 2014
- 11th place ERC 2016
- 11th place URC 2022



Participants: 15



PCz Rover Team



PCz Rover Team



pczroverteam

Dabrowskiego 69

Czestochowa, Poland

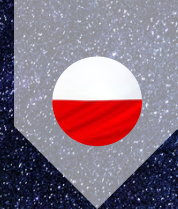
pczroverteam@pcz.pl

<https://rover.pcz.pl/>

# Project Scorpio

OFF-ROAD Student Scientific Association

WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY



## ABOUT US

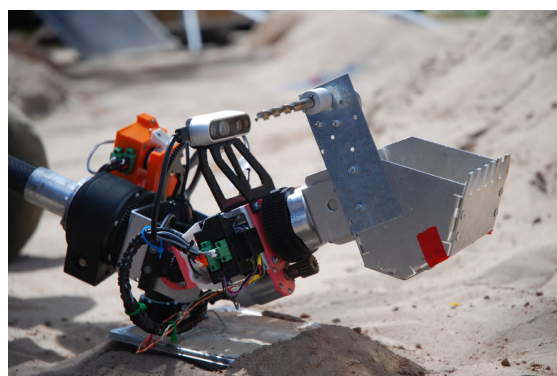
OFF-ROAD has been operating since 2009. Our team is divided into five different departments: Mechanics, Electronics, Software, Science and Marketing. Being one of the oldest and most successful teams, we try to promote the space sector in our country by participating in many industry events and competitions, organizing activities for children or visiting foreign research centers, such as NASA JPL.

## PROJECTS

We are mainly known for Project Scorpio, the Mars rover, but we have also worked on other projects, including the Eagle Mars lander and the Twardowsky Mars colony. Scorpio has been taking part in events all around the world. We have scored top places at prestige competitions, promoting our University and Polish space engineering. As of today we have built 7 generations of our rovers, 8th is coming.

## ACHIEVEMENTS

- 2nd place at Australian Rover Challenge 2023
- 1st place in Freestyle at xChallenge 2022
- 1st place at Anatolian Rover Challenge 2022
- 3rd place in Science at University Rover Challenge 2022
- 5th place at Canadian International Rover Challenge 2019



Participants: 40+



Project Scorpio



Projekt Scorpio

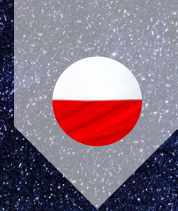


projektscorpio

ul. I. Łukasiewicza 5, B-4

50-371 Wrocław, Poland

projekt@scorpio.pwr.edu.pl



### ABOUT US

We are a student research group from Poznań University of Technology established in 2017. We currently consist of about 70 students from every faculty of our university. We design, build and test hypersonic sounding rockets, develop the technology of hybrid propulsion systems, conduct scientific research, and take part in competitions, fairs, and science conferences.

### PROJECTS

Projects carried out by us are all connected to the competitions we take part in. They are mostly the Hexa series of hybrid propulsion rockets, 5 iterations of which were developed, including the newest Hexa 4 rocket designed for Spacecup America Cup 2023. We also currently develop an Active Roll Control project for our rockets and we strive to be the first student team to build a working turbopump.

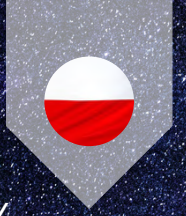
### ACHIEVEMENTS

- 1st place – 30K SRAD Hybrid/Liquid category – Spaceport America Cup 2021
- 1st place – Jim Furfaro Award for Technical Excellence – Spaceport America Cup 2021



# PW<sub>r</sub> in Space

WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY



## ABOUT US

PW<sub>r</sub> in Space is a science club focused on innovative projects related to space technology. With over 60 members, they have completed successful projects including a hybrid-powered rocket and have received recognition and awards for their work at international competitions. Through their activities club provides an opportunity for students to develop their skills and knowledge in a practical way.

## PROJECTS

PW<sub>r</sub> in Space works on two projects: PoliWRocket and PoliFloater. They use cutting-edge technology in software, composite materials, 3D printing, and material sintering to develop innovative solutions. PoliFloater is a high-altitude balloon designed to operate at altitudes of up to 10 km. PoliWRocket aims to construct hybrid-powered rockets capable of reaching high altitudes and carrying payloads.

## ACHIEVEMENTS

- 2nd place in the 10k Hybrid, Liquid&Others category at the SAC 2022
- 2nd place in 3k Hybrid SRAD category and "Best Design" Award in EuRoC 2021
- Development of innovative solutions such as hybrid engine and active rocket trajectory control



Participants: 60



PW<sub>r</sub> in Space



PW<sub>r</sub> in Space



polirocket

wybrzeże Stanisława Wyspiańskiego 27

Wrocław, Poland

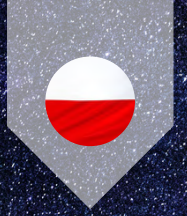
[pwrinspace@pwr.edu.pl](mailto:pwrinspace@pwr.edu.pl)

[www.pwrinspace.pwr.edu.pl](http://www.pwrinspace.pwr.edu.pl)



# Raptors

LODZ UNIVERSITY OF TECHNOLOGY



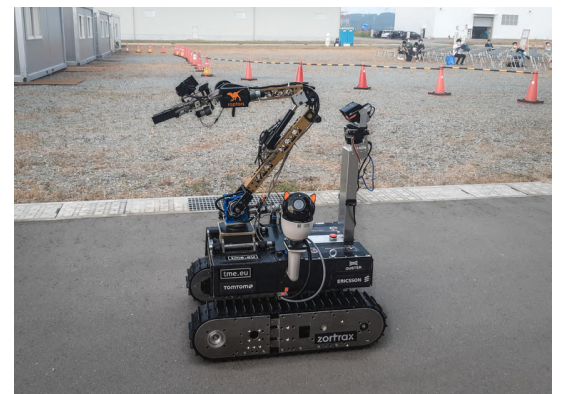
## ABOUT US

The Raptors Team. Founded in 2014. We are united by robots - their design and construction. People, who join us get astute along the way, those leaving - pass their knowledge and experience on.

Our modular rover for years has been participating in winning various events worldwide. Recently working also with flying robots. Thanks to this synergy we can achieve ever higher efficiency of operations.

## PROJECTS

- Constructing own robot rovers
- Constructing own drones
- Programming robots
- Developing robots autonomy
- Developing robotic solutions in industrial processes facilitation
- Using a system of autonomous heterogeneous robots in response to a crisis



## ACHIEVEMENTS

- ERL Emergency 2022 (Poland)
- 1st World Robot Summit 2021 (Japan)
- 3rd ERL Emergency 2019 (Spain)
- 2nd University Rover Challenge 2018 (USA)
- 4th Development of HetBot startup for automatic drones' battery change



Participants: 60



PŁ Raptors



PŁ Raptors



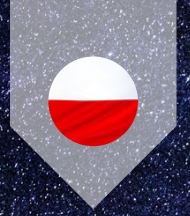
pl\_raptors

Bohdana Stefanowskiego St. No. 18

Łódź, Poland

pl.raptors@gmail.com

www.raptors.p.lodz.pl



## ABOUT US

SimLE is a student organisation consisting of students from the entire Tri-City, founded in 2013 at the Gdańsk University of Technology in response to the voices of employers, students and university graduates. We have heard rumours that fresh graduates lack soft skills and practical experience in applying hard skills. We decided to fix it! We believe that practical engineering activities from concept to creation and implementation of the solution are the most effective way to prepare students for their future professional or scientific career. The task of our organisation is to create teams and equip them with means to solve engineering problems.

## PROJECTS

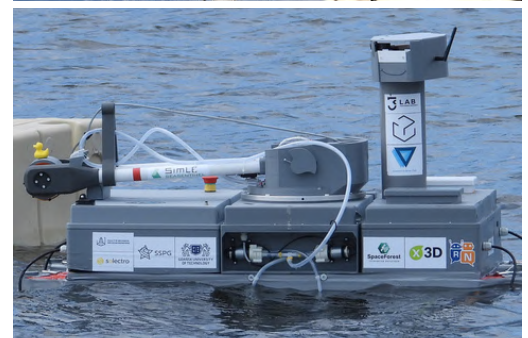
We set ourselves a high level of complexity and innovation in our projects. Currently we work on following projects:

- SimBa - design of a hybrid rocket engine and sounding rocket to launch in international competitions.
- Stardust - operation of a stratospheric balloon platform for scientific research.
- Science AMBER - Autonomous Modular Biotechnological Experiment on a Rocket provides platform capable of conducting research of an astrobiotechnological nature under suborbital rocket flight conditions.
- SeaSentinel - design of an autonomous boat for the ports of the future.
- SLuG - scientific experiment to measure lubricants performance in microgravity.



## ACHIEVEMENTS

- Launch campaign of Stardust BEXUS Project from Esrange Space Center in 2021
- Participation of SimBa R5 rocket in European Rocketry Challenge 2021, Portugal
- Participation of SimBa R6 rocket in Spaceport America Cup 2022, Las Cruces, USA.
- Participation of SeaSentinel "ASV Perkoz" in RoboBoat 2023 competition, Sarasota, USA.
- Participation of SLuG Project to realisation under ESA PETRI programme.



Participants: 100



SimLE



SimLEpl



simle.pg

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[www.simle.pl](http://www.simle.pl)



### ABOUT US

The Silesian Aerospace Technologies Student Science Club was born in 2019 at Silesian Aerospace Technologies, out of the desire to explore space. At the moment, we associate about twenty people with different skills and interests and even studying at different universities. We are a young, ambitious, well-coordinated team proving that the sky is not the limit!

### PROJECTS

Currently, we are working on a rocket with a hybrid engine that can reach over 3 km. Among our projects there is also a stratospheric balloon carrying a scientific payload for at least 30 kilometers and a ground station that allows you to receive satellites in low Earth orbit.

### ACHIEVEMENTS

- two stratospheric balloons; as a payload, a muon detector constructed by us flew onto one of them
- construction of a ground station allowing the reception of satellites in low Earth orbit
- building two solid fuel rockets; we reached the maximum altitude of 720 meters



Participants: 35



Silesian Aerospace Technologies



sknsatpolsl

Konarskiego 22b

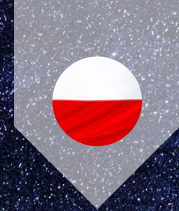
44-100 Gliwice, Poland

skn.sat@polsl.pl

www.sat.polsl.pl

# Student Association of Aviation and Cosmanutics

MILITARY UNIVERSITY OF TECHNOLOGY



## ABOUT US

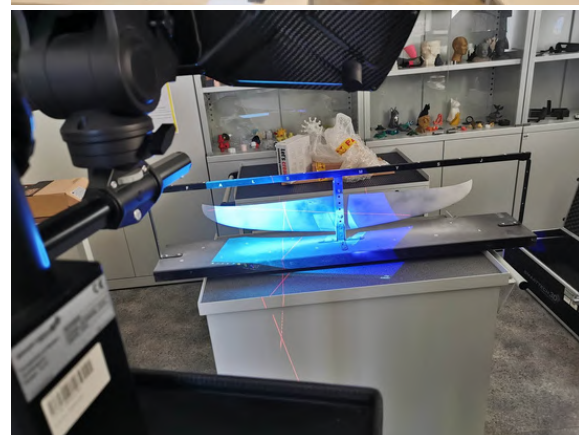
Students' Association of Aviation and Cosmonautics is a student organization operating at the Military University of Technology, bringing together people interested in learning about and developing their skills in designing, building, and developing model rockets, unmanned aerial vehicles, and stratospheric balloons. Our association provides students with the opportunity to acquire knowledge through participation in projects and workshops dedicated to expanding their specialized engineering knowledge, which is used in the implementation of current projects and the creation of new ones.

## PROJECTS

- The Experimental Modular Unmanned Aerial Vehicle "Jaskółka" is a project aimed at developing a UAV in a flying wing configuration characterized by a modular design that enables fast and efficient exchange of individual mechanical and electronic components.
- Flying wing made in 3D printing technology, and the project aims to develop a fast and effective way of prototyping different mechanical and structural solutions for the UAV to verify the correctness of component operation in the initial design phase.
- The Stratospheric Balloon is a project aimed at developing measuring equipment that measures basic parameters of high altitude regions of the atmosphere.
- The Single-stage Rocket
- The "RazorWing"

## ACHIEVEMENTS

- 2nd place in Students' International Conference "CERC" (2022)
- 1st place in XXVIII Seminar of the Students' Associations Faculty of Mechanical Engineering, Faculty of Mechatronics, Armament and Aerospace Military University of Technology (2022)
- 2nd place in Contest of the Rector of the Military University of Technology for the best student's work carried out as part of activities in the Students' Association of the MUT



Participants: 38

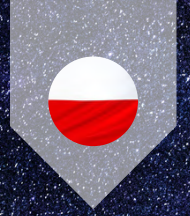


Koło Naukowe Studentów  
Lotnictwa i Kosmonautyki WAT

ul. gen. Sylwestra Kaliskiego 2,  
00-908 Warsaw, Poland  
knslik@student.wat.edu.pl

# Student's Space Association

WARSAW UNIVERSITY OF TECHNOLOGY

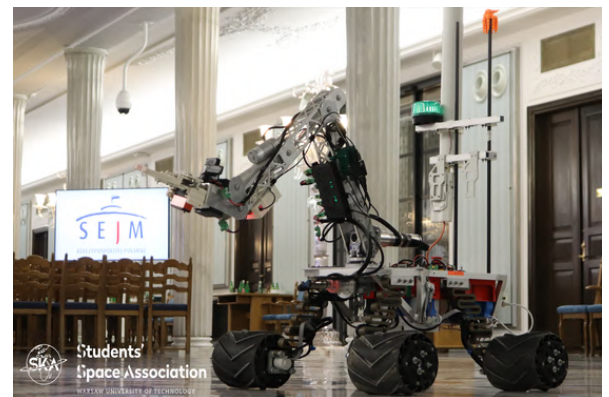
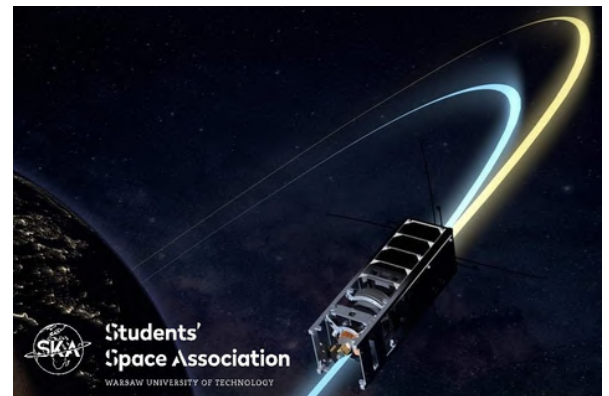


## ABOUT US

SKA is the largest space-related student organization in Poland. Established in 1996 at the Warsaw University of Technology, it has played a crucial role in developing the interests of young space enthusiasts. Over 25 years, the Association has grown from several hobbyists into a fully developed organisation, that works on four projects and divisions: Robotics, Rocketry, Balloon and PW-Sats.

## PROJECTS

The Balloon Division designs stratospheric experimental devices and missions. The Rocketry Division creates and launches experimental rockets with custom engines, control systems and structural engineering. The Robotic Division deals with drones, submersibles, and extraterrestrial analog rovers. The PW-Sat project develops satellites with various payloads, which include novel deorbitation devices.



## ACHIEVEMENTS

- PW-Sat - the first Polish satellite, launched in 2012
- Skarabeusz (Scarab) - the first Polish analogue Martian rover (University Rover Challenge 2010)
- Grot rocket - the highest flight of amateur's rocket in Poland (18,5 km 2019)



Participants: 200



Studenckie Koło Astronautyczne



Studenckie Koło Astronautyczne



ska\_pw

Nowowiejska 21/25,

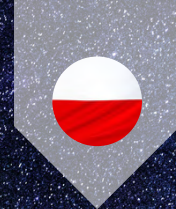
Warsaw, Poland

ska.pw.pr@gmail.com

www.ska.pw.edu.pl

# UNIVERSEH SpaceTeam AGH

AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY



## ABOUT US

SpaceTeam AGH - student research group founded by Space Technology Center, AGH University of Science and Technology. It brings together students passionate about space resources and technologies.

## PROJECTS

Our main project is TOLRECON. During it SpaceTeam AGH participates in the Over the Dusty Moon Challenge competition organized by the Colorado School of Mines (USA). The task is to design and build a transport system for carrying regolith on the Moon.

We also take part in the UNIVERSEH program which associates students from Europe.



## ACHIEVEMENTS

- 2nd place at Over the Dusty Moon Challenge during competition in Colorado,
- many presentations and speeches at space conferences, - commitment in UNIVERSEH



Participants: 25



SpaceTeam AGH



SpaceTeam AGH



spaceteam.agh

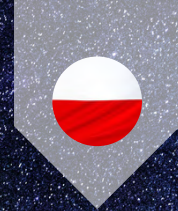
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Kraków, Poland

spaceteam@agh.edu.pl

# Cosmonautic Team (KNK)

RZESZOW UNIVERSITY OF TECHNOLOGY



## ABOUT US

We are a team of students passionate about the experimental development of rocket projects. The idea of our organization is to spread knowledge and interests in the space industry and popularization technical skills related to the general area aerospace. The knowledge acquired during studies becomes necessary to implement complex solutions related to our goals and projects. We model rocket structures and providing them with appropriate performance through creation own motor drives. We want to arouse interest in the development, technological skills and promotion of scientific culture and innovation of students - presenting our projects at educational fairs or science days organized by partners in the region.

## PROJECTS

We promote synergy between the scientific community and the aerospace industry - by, among other things, participating in the Meteor festival, where we discuss projects, test and consult solutions with engineers working in the space and aerospace industry in our region. Our projects arouse interest in representatives of leading and respected companies.

The main challenges carried out by us are: project of a rocket engine test bench, project of a subsonic rocket with a solid fuel engine, project of a rocket with a hybrid fuel engine, project of an on-board computer

## ACHIEVEMENTS

- participation in the "Meteor 2022" festival
- two successful flights of experimental rockets



# AeroTéc

Núcleo de Estudantes de Engenharia Aeroespacial do Técnico

INSTITUTO SUPERIOR TÉCNICO (UNIVERSITY OF LISBON)



## ABOUT US

AeroTéc - Núcleo de Estudantes de Engenharia Aeroespacial do Técnico is a multidisciplinary group, with students from multiple Técnico degrees, with an interest in Aeronautics, Space, and Technology. From technical projects to projects dedicated to the community we currently have about 200 associates. We develop multiple project, both in the aeronautical and space domains.

## PROJECTS

- ATLAS - Systems & Aeronautics: dedicated to the design, construction, and operation of autonomous aircraft capable for the Air Cargo Challenge, New Flying Competition and monitoring wildfires.
- ACE Pilot: design of remote-controlled aeromodels of easy construction and repair, and to learn how to fly them.
- Blue: dedicated to scientific research and development of small scale jet engines, with a focus on efficiency, sequentially iterating on design ideas to reduce fuel consumption.
- RED - Rocket Experiment Division: design, build, test and launch sounding rockets. Also developing a small project whose goal is to land the first portuguese rocket. Semana Aeroespacial: annual event with an employment fair, lectures, roundtables, workshops and more with the objective of allowing students to connect with companies and entities relevant for their present and future.
- Workshop Rockets@Schools
- Web.Dev
- Revista Aeroespacial



## ACHIEVEMENTS

- Founded the Air Cargo Challenge competition;
- Won the EuRoC 2022 3km SRAD award;
- EuRoC 2022 2nd place overall;
- Honorable mention at the NAVAL-REX22 exercise



AeroTéc



AeroTéc



aero.tec

Participants: 198

Av. Rovisco Pais, 1

Lisbon, Portugal

aerotec@tecnico.ulisboa.pt

www.aerotec.pt



## ABOUT US

Pollux is a Junior Initiative, from Coimbra, Portugal, that aims to take steps forward in space projects and student's careers, through its services and projects applying all the knowledge, passion and perseverance present in its members. While working on projects that add social and scientific value to society we train our members with skills required in today's space industry.

## PROJECTS

- Design and conception of space technologies: From software development to the design of PCB's and mechanical structures, we develop functional products while having in consideration the client's requirements.
- Thermal and structural analysis: We perform thermal and structure simulations for space qualification hardware.
- Data analysis and processing: From scientific data analysis to data collecting and organisation we provide a wide range of services.

## ACHIEVEMENTS

- First internal project: stratospheric balloon launch in December of 2022
- First project with a company (EFACEC): structural analysis for a space altimeter (ongoing)
- Implementation of a Quality Management System that follows ECSS standards
- A partnership with a group of researchers, for the design and development of a cubesat
- More than 70 members over almost 2 years of existence
- More than 40 internal trainings sessions to the members (in soft and hard skills)



# Porto Space Team

UNIVERSITY OF PORTO



## ABOUT US

Porto Space Team is a portuguese non-profit student organization, based in Porto, focused on the promotion of projects and activities in the area of aerospace engineering. We were founded in May 2022 and are composed of around 65 engineering students from the Faculty of Engineering of the University of Porto.

## PROJECTS

Currently, our team is developing the INVICTUS rocket for the European Rocketry Challenge (EuRoC), with the goal of reaching an altitude of 3000 meters with a hybrid propulsion system on Portuguese soil. The INVICTUS rocket and its subsystems are to be designed and produced totally by Porto Space Team, with the help of our partners! We hope to participate in EuRoC 2024 and leave a mark as the first portuguese team to launch and recover a hybrid rocket!



## ACHIEVEMENTS

- First and second iteration project technical reports, with the use of both analytical and advanced computational tools to design the various subsystems of INVICTUS;
- First steps towards the production of the propulsion system, holding talks with partners and expanding our network for manufacturing versatility
- Reaching 65 talented engineering students, with the participation in academic events in our university and the organization of recruitment sessions



Participants: 65



Porto Space Team



Porto Space Team



portospaceteam

Rua Roberto Frias s/n, FEUP DEMec

Porto, Portugal

geral@portospaceteam.pt

www.portospaceteam.pt

# RED | Rocket Experiment Division

INSTITUTO SUPERIOR TÉCNICO (UNIVERSITY OF LISBON)



## ABOUT US

RED is the pioneering student rocket team from Portugal. The team is part of AeroTéc - Aerospace Engineering Student Association from Técnico. Since its foundation in 2017, the main objective behind RED has been to design, build, test and launch rockets in order to allow students to apply the knowledge they acquire in the theoretical courses in a more practical way, facing the problems of real world projects. By understanding the complexity and high demands of the project, and experiencing the team's effort and communication, students have the opportunity to evolve both their technical and soft skills.

## PROJECTS

- Pilot (2017-2018)
- Aurora 1.0, 2.0 and 3.0 (2018-2021)
- Blimunda (2021)
- Baltasar (2021-2022)
- Camões (2022-2023): The Camões Mission is currently being developed to participate at EuRoC 2023. The goal is to develop a reliable and 100% functional prototype that reaches and altitude of 3000 meters. All its systems are SRAD. The rocket will be able to transport 2 1U Cansats and 1 4U PocketSat.
- Magalhães (2022-2023): The Magalhães Mission's goal is to study the TVC technology. RED's R&D team is focused on developing this first prototype as a proof of concept in order to be able to apply this technology in future and more complex rockets.



## ACHIEVEMENTS

- Creation of the first Portuguese Student Rocketry Team;
- The first Portuguese Team to participate in an international rocketry competition (EuRoC);
- 1st Place | Flight Award S3 at EuRoC 2022;
- 2nd Place | Overall Classification at EuRoC 2022;
- Development of functional and reliable Solid Rocket Motors.



Participants: 95



RED | Rocket Experiment Division



aerotec.red

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www.aerotec.pt/red

# SAC

## Section of Astronomy, Astrophysics and Astronautics

### UNIVERSITY OF COIMBRA



### ABOUT US

The Section Astronomy, Astrophysics and Astronautics of the Academic Association of Coimbra, mostly known as SAC, was founded in 1989 with the aim of promoting astronomy and space sciences to the entire community. Since then, it has shared knowledge and incited interest in the area through astronomical observations, scientific lectures, technical projects, a podcast and promotion on social media.

### PROJECTS

Our projects are focused on astronomical and solar observations open to the public, lectures with space science scientists about their area of study, a podcast by our students about their knowledge in the subject - PodSAC, a research group on astrobiology and technical projects that include STRATOSPOLCA from Bexus and Fénix from EuRoC.



### ACHIEVEMENTS

International technical projects such as STRATOSPOLCA and Fénix Education to our members in astronomy, astrophysics and the use of telescopes Multidisciplinary team with students from different areas of study Reached an audience of different age groups



Participants: 64



Secção de Astronomia - AAC



astronomia.aac

Rua Padre António Vieira, S/N 3000-310

Coimbra, Portugal

saccoimbra@gmail.com

www.sac-aac.pt

### ABOUT US

We are a group of students who are passionate about space and rocketry. Our team works on the design and construction of rockets for academic competitions, although our goal is to reach the Moon (Ad Lunam!). In addition to our work designing and building rockets, we also participate in science outreach and community activities to foster interest in space activities and engineering.

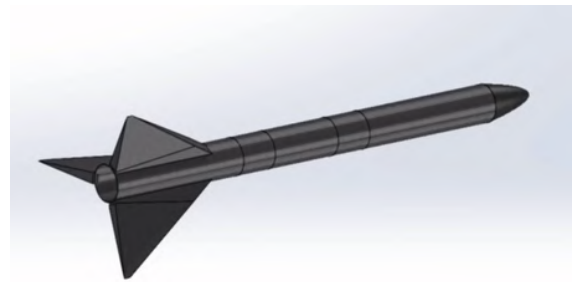
### PROJECTS

Our main project is AUGUSTA, which will be our first rocket. It is built with phenolic cardboard, fibreglass and PLA. It is expected to reach an apogee of approximately 700 metres. Additionally, we aim to build a rocket for the Aragon Regional Final of the CanSat competition.

Another goal is to build and test solid motors. Therefore, we are also designing and building a test bench.

### ACHIEVEMENTS

- The very first rocket and aerospace related student association in Aragon
- Water rocket workshop at the EINA Engineering and Architecture Week
- Participation in SURTAM podcast as one of the emerging rocket teams in Spain



Participants: 15



ALUnizar - Ad Lunam Unizar Street María de Luna, 3, 50018 Zaragoza,



\_alunizar\_

Zaragoza, Aragon, Spain

alunizar@unizar.es

# UJI Robotics Team

UNIVERSITAT JAUME I



## ABOUT US

The UJI Robotics Team originated at the Universitat Jaume I (UJI) in the year 2022. The idea of the team was to participate in robotics competitions and develop innovative solutions in the field of automation and robotics. The team is made up of students from different degrees of the university who seek to broaden their knowledge and put it into practice.

## PROJECTS

In its first year, the team participated in the national "Ceabot" competition (2nd place) and quickly stood out for its technical skills and creativity in building robots. In 2023 the team decided to participate in the "Asti Robotics Challenge" (currently finalists). As a consequence, the team has chosen to go one step further and compete internationally, preparing for the "ERC Challenge".

## ACHIEVEMENTS

- National runner-up in the CEABOT competition
- Current finalists of Asti Challenge 23



Participants: 18



UJI Robotics Team



ujirobotics

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12006 Castellón de la Plana, Spain

ujiroboticsteam@uji.es

# UPC Space Program

UNIVERSITAT POLITÈCNICA DE CATALUNYA



## ABOUT US

UPC Space Program is a program entirely formed by students who aim to apply the knowledge acquired during the degrees of industrial engineering, electronics, mechanics and aeronautics to missions related to the aerospace field. Within the program there are 5 missions: rockets, stratospheric balloons, drones, robotics and nanosatellites.

## PROJECTS

Ares (rocketry) is focused on developing a rocket to participate in EuRoC, GRASS (robotics) is dedicated to the design and construction of a Martian rover to achieve a top 5 position in ERC 2023, Horus (nanosatellites) is developing an electrodynamic tether pocketcube and Zephyros (high altitude balloons) aims to participate in Bexus 2024.



## ACHIEVEMENTS

- 9th position in ERC 2022
- 10th position in ERC 2021



Participants: 80



UPC Space Program



UPC Space Program



upcspaceprogram

Carrer Colom, 11

08222, Terrassa, Catalonia, Spain

info@upcprogram.space

<https://linktr.ee/upcspaceprogram>

# Asclepios

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE



## ABOUT US

Asclepios based in Lausanne, Switzerland, is a student organization with an international team of 50 students from diverse backgrounds. Through organising analog space missions, they train students for jobs in manned spaceflight, gather scientific data, and promote space exploration. They provide hands-on experience, fostering international collaboration and inspiring the student community.

## PROJECTS

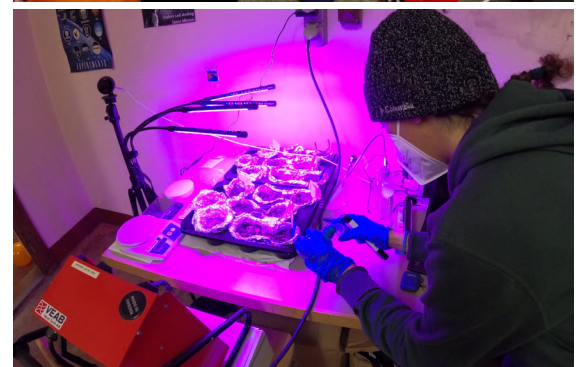
The yearly analog space missions provide hands-on experience for the team and gather valuable data. From fundraising to base design, research project selection to astronaut training, the organization handles diverse tasks. By fostering international collaboration and effective communication, Asclepios leaves a lasting impact on participants and the student community.



Credits: Elisa Hipp/Urner Wochenblatt

## ACHIEVEMENTS

- International team from Europe, USA, Saudi Arabia and more.
- Officially recognized as EPFL student association
- Two successful missions
- Third mission in July 2023
- Appeared in several documentaries in different languages



Participants: 50



Asclepios Mission



Asclepios Mission



asclepios\_mission

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CH-1015 Lausanne, Switzerland

asclepiosmission@gmail.ch

www.asclepios.ch



# EPFL Spacecraft Team

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE



## ABOUT US

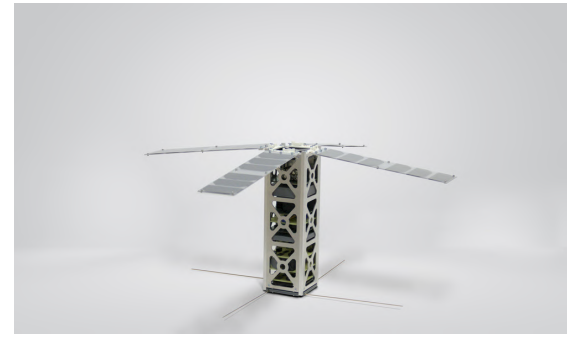
Established in 2019, the EPFL Spacecraft Team is a student-led association of nearly 70 students across 13 different poles, uniting diverse engineering backgrounds from EPFL. Our mission is to design the CubeSat platform while fostering growth in the Swiss space industry. By providing students with hands-on experience in tackling complex projects, we aim at creating a fast track to space for them.

## PROJECTS

EPFL Spacecraft team's main mission, called CHESSE, aims to launch two scientific CubeSats for in-situ measurements of Earth's upper atmospheres. Our primary goal is to design the CubeSat platform, offering students hands-on experience in all project stages. To achieve this, we created sub-missions to test integrated components. Bunny, the first sub-mission, launched in Jan 2023. Currently, our focus is on testing the X-Band Telecom module in the Twocan mission.

## ACHIEVEMENTS

- January 2023: Bunny, our onboard computer was deployed from Vandenberg (California) and began its orbiting journey. This is a significant milestone for our association as it represents our first launch in space. The first tests are nominal. This expresses the success of our first mission.



Participants: 70



EPFL Spacecraft Team



EPFL Spacecraft Team



epfl\_spacecraft\_team

EPFL PPH 335 station 13,  
CH-1015 Lausanne, Switzerland  
contact.chess@epfl.ch  
www.epflspacecraftteam.com



## ABOUT US

EPFL Xplore is a student-led space robotics project from EPFL, part of the MAKE initiative in Switzerland. Our mission is to leverage project-based learning in the training of engineers at EPFL. Xplore is also considered as an example of interaction between the student world, research and industry. We collaborate with research laboratories and partner companies to promote the student contribution to the field of space robotics.

## PROJECTS

Getting ready for ERC 2023.

Based on the experience gained over the past year and our successful participations in the previous editions of the European Rover Challenge, we are currently developing our third Rover.

Our goal is to increase the degree of autonomy, reliability and modularity to have a platform on which the future team can iterate.

## ACHIEVEMENTS

- ERC 2021 - 3rd place overall + Excellency awards for the Science and Probing & collection tasks
- 
- ERC 2022 - 2nd place overall + Excellency award for the Navigation Task



Participants: 50



EPFL Xplore



EPFL Xplore



epfl\_xplore

EPFL Xplore, Station 13,

Lausanne, Switzerland

[contact@epfl-xplore.ch](mailto:contact@epfl-xplore.ch)

[www.epfl-xplore.ch](http://www.epfl-xplore.ch)

# FHNW Rover Team

UNIVERSITY OF APPLIED SCIENCES AND ARTS  
NORTHWESTERN SWITZERLAND



## ABOUT US

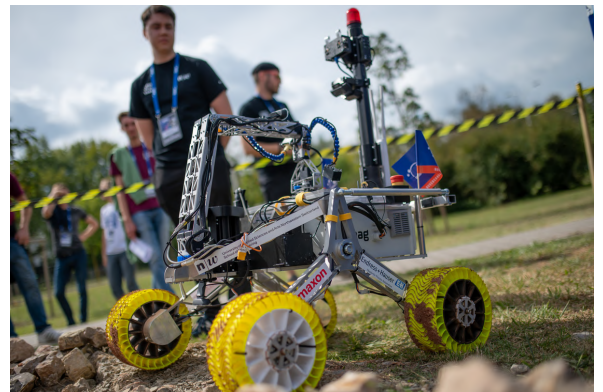
The FHNW Rover Team is an interdisciplinary team of three different majors, electrical engineering, mechanical engineering and computer science. Our mission is to qualify for the European Rover Challenge 2023. Therefore, we are rebuilding our rover, with which we were able to compete at the on-site challenge in 2022 and achieve the 6th place.

## PROJECTS

The FHNW Rover Team was the first interdisciplinary project to be launched entirely by students. Currently, we are redesigning and overhauling the first rover they built for the European Rover Challenge in 2022. Our strength lies in the professional background variety of the team members. From heating planner, to carpenter, everything can be found in our team. The whole team consists of undergraduate students that are working on the improvement of the rover.

## ACHIEVEMENTS

- Qualification for the European Rover Challenge 2022
- 6th place at the European Rover Challenge 2022



 FHNW Rover Team

 fhnw.rover

Participants: 20

Bahnhofstrasse 6  
5210 Windisch, Switzerland  
fhnwrover@gmail.com  
www.fhnw.ch/rover

# Gruyère Space Program

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE



## ABOUT US

We are a small independant team composed of EPLF student. Developing the first student-built rocket able to land like SpaceX Falcon 9!

## PROJECTS

We are developing Colibri, a rocket able to land vertically. This 100kg rocket is 2.5m tall will fly in 2023. Its mission is to liftoff, fly to 100m for more than a minute, then land vertically using a bi-propellant N2O-Ethanol engine.

## ACHIEVEMENTS

We successfully static fired more than 20 times our engine, a first for students in Switzerland! Our rocket GNC systems are already proven on an electric test platform we designed from scratch. The rocket is now assembled and almost ready to fly!



Participants: 5



Gruyère Space Program



Gruyère Space Program - GSP



gruyere\_space\_program

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www.gruyerespaceprogram.ch

# SpaceHopper

ETH ZÜRICH



## ABOUT US

We focus on Space Robotics and AI-Enabled Robotics, specifically the development of SpaceHopper—a 3-legged robot for low-gravity celestial exploration. The team consists of researchers from ETH Zurich's Robotic Systems Lab, and our mission is to conduct parabolic flight experiments on 13-24 November, 2023 to validate jumping and reorientation capabilities in low-gravity environments. The project combines legged robotics and AI for potential space and applications.

## PROJECTS

We develop SpaceHopper, a 3-legged robot designed for mobile exploration of low-gravity celestial bodies. The project aims to overcome locomotion challenges on moons and asteroids by utilizing dynamic jumping locomotion, without relying on reaction wheels. Key tests include gravity offload testing, reorientation, and jumping tests in zero-g flights to validate legged robots' ability to reorient in low gravity environments and demonstrate the hopping locomotion concept.

## ACHIEVEMENTS

Our robot SpaceHopper: - Designed for microgravity environments, exploring celestial bodies like asteroids - Lightweight, small, and three-legged for optimal mobility - Advanced jumping and reorientation capabilities without reaction wheels - Parabolic flight campaign to validate low-gravity performance



- 1 Hop to Traverse Large Distances
- 2 Attitude Control During Flight
- 3 Controlled Landing at Target Point
- 4 Precise Short-Distance Locomotion
- 5 Ability to Carry a Scientific Payload
- 6 Self-Righting



Participants: 14



SpaceHopper



spacehopper.ethz

Stampfenbachstrasse 69

Zürich, Switzerland

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www.spacehopper.ethz.ch

# GTU ROVER TEAM

## GEBZE TECHNICAL UNIVERSITY



### ABOUT US

The GTU Rover Team is a team formed in May 2020 by students of Gebze Technical University who are interested in space, science, and technology. The GTU Rover team comprises more than 40 students from 17 different departments across five faculties, including Engineering, Science, Business, Architecture, Aeronautical, and Space Sciences. Our team was formed with a primary objective of exploring various perspectives and developing innovative solutions.

### PROJECTS

- University Rover Challenge
- European Rover Challenge
- Anatolian Rover Challenge
- Teknofest
- ESC30 Solidarity Projects

### ACHIEVEMENTS

Our robot SpaceHopper: - Designed for microgravity environments, exploring celestial bodies like asteroids - Lightweight, small, and three-legged for optimal mobility - Advanced jumping and reorientation capabilities without reaction wheels - Parabolic flight campaign to validate low-gravity performance



Participants: 40



GTU Rover Team



GTU Rover Team



gturover

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gturover@gmail.com  
www.rover.gtu.edu.tr

# METU ROVER

MIDDLE EAST TECHNICAL UNIVERSITY



## ABOUT US

METU ROVER is a student project that aims to develop, design, manufacture, and attend rover competitions worldwide, such as European Rover Challenge, Anatolian Rover Challenge, and University Rover Challenge since 2018. At this moment, we are 21 undergraduate students from various departments. The team consists of 5 sub-teams: mechanical, electronic, software, science, organization & finance.

## PROJECTS

- Improver, 2019-2020: Improver is the first rover design of the team.
- Improviser: 2020-2021: Improviser is the second rover design of the team. Also, it is the first rover that the team has mostly completed to have most of the functions.
- Improviser v2.0, 2022-2023: Improviser v2.0 can be an extension of Improviser since we have redesigned the chassis and robotic arm of Improviser.



## ACHIEVEMENTS

- ERC 2019, 4th place and "Best Scientists Awards"



Participants: 21



METU ROVER



METU ROVER



meturover

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www.meturover.com

# Red Giant Rover Team

KONYA TECHNICAL UNIVERSITY



## ABOUT US

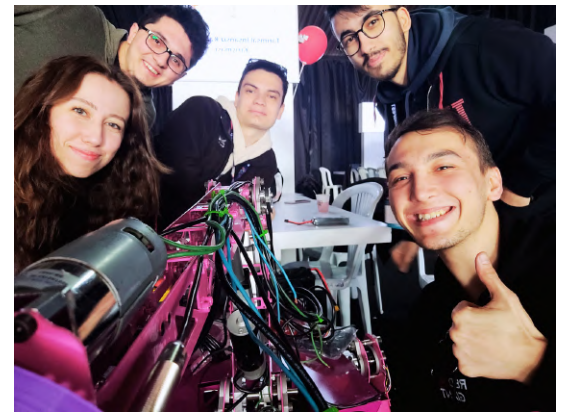
The Red Giant Rover Team was founded in February 2019 by people studying at Konya Technical University (KTÜN). The team, which started to research projects to be worked on right after its establishment, encountered planetary exploration vehicle projects in this process and decided to focus on this topic that attracted their attention. "How can we do it?" The team, which started the project with the question, drew a road map after long researches. In line with the targets, the construction of the vehicle started. Red Giant Rover Team; It consists of 5 sub-teams, namely the mechanical, electronics, software and science teams, and the sponsorship and promotion team. The team took the 8th place in the ON-SITE category in ERC2021, where they participated with their vehicle called Capsule. Red Giant Rover Team, from different departments that have been studying in different schools, especially Konya Technical University, since 2019; It is a team formed by interested, curious and disciplined students. The team consists of 15 actively working people.

## PROJECTS

In 2014, Assoc. Dr. Established under the leadership of Akif DURDU, RACLAB (Robotics, Automation, Control Laboratory) is a research and development laboratory where undergraduate and graduate students and university lecturers can also carry out scientific studies in cooperation. There are 15 teams within RACLAB.

## ACHIEVEMENTS

- European Rover Challenge 2019 Onsite - 8th
- Teknofest agricultural unmanned ground vehicle - 16th



**RED  
GIANT**

Participants: 15



Red Giant Rover Team



Red Giant Rover



redgiantrover

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# YILDIZ ROVER

## YILDIZ TECHNICAL UNIVERSITY



### ABOUT US

Yıldız Rover is an interdisciplinary robotics team gathered under SPARK Community. Our team was established in 2020. The team's academic advisor is Ozlem Emanet, Ph.D. from the Department of Mechanical Engineering. Our team consists of 35 members from 17 different engineering and science departments. Yıldız Rover team consists of five sub-teams supervised by the team leader and the technical team leader. These 5 sub-teams are mechanical, software, electronics, science, and organization.

### PROJECTS

The projects we are preparing for include:

- University Rover Challenge (URC):
- TEKNOFEST
- Anatolian Rover Challenge (ARC)
- European Rover Challenge (ERC)

### ACHIEVEMENTS

In the year 2021, we reached the final stage and secured the 22nd position in the European Rover Challenge (ERC) competition. In 2022, we were one of the two Turkish teams that qualified for the finals in Poland and completed the competition in 10th place. We received the 3rd prize in the TEKNOFEST competition in 2021 in the 'Agricultural Unmanned Ground Vehicle' category. In 2022, our vehicle's performance earned us the 1st Prize and the 'Presentation Special Award'. We successfully completed all stages of the University Rover Challenge (URC) competition in 2022 and earned the opportunity to compete in the finals held in Utah, USA. Among the 99 participating teams, we secured the 24th position and were the only Turkish team to reach the finals. We also participated in the inaugural Anatolian Rover Challenge (ARC) competition in 2022 and finished in 5th place, ranking 1st among Turkish teams.



YILDIZ  
ROVER

Participants: 30



Yıldız Rover



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Yıldız Rover

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## ABOUT US

In November 2014, undergraduate students from Ozyegin University who are passionate in the field of robotics established OzU Rover Team under the advisement of Dr. Özkan Bebek, assistant professor at Özyeğin University. Since then, the team pursues two main goals; preparing young engineers for their career in space robotics by providing them learning environments and opportunities throughout their undergraduate studies, and participating in various engineering competitions to gain valuable insights to continuously improve their learning experiences.

## PROJECTS

The team currently focuses on the Rover Challenge Series and its researches on space robotics.

## ACHIEVEMENTS

- 2015: ERC 17th
- 2016: ERC 10th, top score in automation
- 2018: ERC 26th
- 2019: ERC 13th
- 2020: ERC 7th, URC Finalist ( Could not compete)
- 2021: ERC 7th, URC Finalist ( Could not compete)
- 2022: URC Finalist (Could not compete)



OzU Rover Team

ozurover

Participants: 49

Nişantepe Mah. Orman Sk.

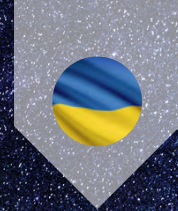
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# AstroSandbox

NOT AFFILIATED WITH UNIVERSITY



## ABOUT US

AstroSandbox was founded in January 2020. We solve problems of unavailability of recourses for astronomical studies to Ukrainian school students and absense of community of people intersted in space sciences. Besides our project listed below, we also maintain group chat, where students discuss astronomy-related and general life-related problems

## PROJECTS

- Structured online course of webinars with HWs and solutions on diverse astronomical topics
- Annual Astronomical Battles Tournament. National-wide team tournament for school students on solving astronomical problems of level of national and international astronomy olympiads. During the Tournament, students deliver their solutions and analyze solutions of their opponents.
- 2 study groups with weekly online lessons (with HWs): for high school&college students (in cooperation with Institute of Aersospace Technologies), for middle school students (in cooperation with Kvanta STEM club)
- Tasks archive - archive of tasks of various levels of different olympiads in astronomy



## ACHIEVEMENTS

- Studway Award in "Scientific project" category (December 2020)
- Recorded and published 60 webinars with HWs and solutions, everything publicly available
- Held 3 annual Astronomy Battles Tournament



Participants: 14



AstroSandbox



astrosandbox

Team members are from Kyiv, Kharkiv, Ivano-Frankivsk, Odesa,  
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# Universe Observing

NATIONAL TECHNICAL UNIVERSITY OF UKRAINE

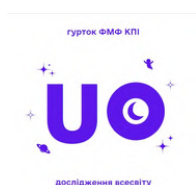
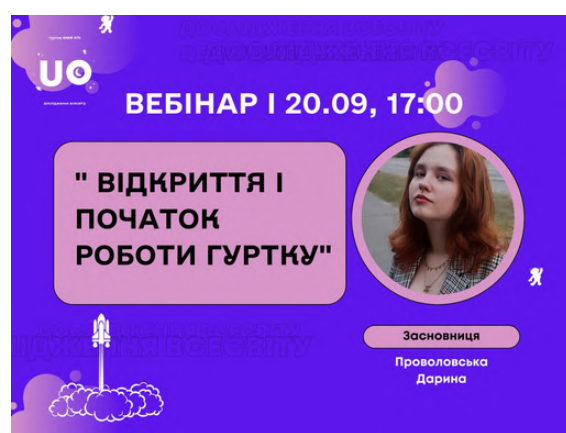


## ABOUT US

Our organization is an official club at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" (NTUU KPI), which is engaged in popularizing physics, mathematics and mainly astrophysics. We hold lectures from the team, and also invite speakers from various universities to share their experience and inspire young scientists to new scientific achievements. We also disseminate information in Ukrainian, which is especially important for the development of our science and the integration of new information into our mentality.

## PROJECTS

We have only three projects "Science in the sky", "Astrophysics lecture", "The speaker knows the region", which is a mixture of what is a symbiosis of three actions: we tell, they (speakers from different fields) tell us, and when we or guest lecturers tell something is not online.



Participants: 50



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# Endeavour

THE UNIVERSITY OF EDINBURGH



## ABOUT US

Endeavour is The University of Edinburgh's student rocketry team. It was founded in 2019 with around 25 members, and has since grown to a team with 63 members, operating three different technical projects, and a strong outreach programme.

## PROJECTS

The Darwin team designs and tests sounding rockets and launch vehicle technology. The Maxwell team researches and designs liquid bi-propellant rocket engines. The Bayes team is focused on simulations and control theory, implemented in the design of a hopper vehicle with thrust vectoring technology. The Outreach team has been to schools here in Scotland and has held workshops and talks on rocketry.

## ACHIEVEMENTS

- Mach 21 1st Place
- Mach 22 2nd Place
- EuRoC 22 Best Payload Award



endeavour

Participants: 63



endeavourockets



endeavourockets



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# Imperial College Space Society

IMPERIAL COLLEGE LONDON



## ABOUT US

The Imperial College Space Society is a student-run organisation aiming to connect Imperial students to the Space Industry and cultivate their skills. We run projects, hackathons, and host talks. We are ambitious, yet beginner friendly. If you know nothing, we'll teach you. If you know a lot, you'll teach us!

## PROJECTS

Within the society there are currently 5 projects: Rocket Engine Design, High Powered Rocketry, Planetary Robotics, High Altitude Ballooning, and CubeSat Solar Sail. We are an ambitious society and aim for novelty. Our Rocket Engine Design Project (REDP) aims to break the world's thrust-to-weight record, our CubeSat team (Project Svarog) has recently published in the Journal of the British Interplanetary Society, and our Planetary Robotics team (IPRL) plan to compete at this year's ERC (European Rover Competition).

## ACHIEVEMENTS

- Published in the Journal of the British Interplanetary Society with an entire undergraduate author team.
- Delivered a design proposal for a super-light-weight rocket engine to achieve record thrust-to-weight ratios, and started manufacture.
- Designed a custom flight computer for model rockets and high-altitude balloons.
- Launched model rockets every year since 2012.
- Ran space engineering themed Hackathons with industrial sponsors, with the online event having participants from 4 continents.



Participants: 144



Imperial College Space Society Imperial College Union, Prince Consort

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space.society@imperial.ac.uk



### ABOUT US

Our students are at the heart of our space activity. Whether speaking to inquisitive young minds about the wonders of space, designing prototypes for continent-wide satellite competitions, organising lectures and educational trips as part of the student space society or working on our brand new satellite ground station, we are proud of the contribution of our student population to the community, the university and the advancement of space research as a whole.

### PROJECTS

- Rocketry Project Team Mach-22 is a competition organised by UKLSL (UK Launch Services Ltd) and UKSEDS (the National Student Space Society) where teams have to design, manufacture and launch a large model rocket and a CanSat to as close to an altitude as 1km as possible. The team would gather data from the launch, such as measuring and transmitting altitude, inertia and position during flight and recovery to a ground station. Additionally, the CanSat lander module will be ejected at apogee and release a planetary probe upon landing, simulating a lander mission.
- WormSail
- AstroJam
- VITA



### ACHIEVEMENTS

- Final shortlist for the European Space Agency's 4th 'Fly Your Satellite!' (AstroJam)
- Selected team for the third iteration of their "Orbit Your Thesis!" ESA educational programme (VITA)
- 3rd place Mach-22 Rocketry competition (HARP).
- 2nd place Mach-21 PEAK CanSat



Participants: 50



[uonspacesoc](#)



[UoN Space Society](#)



[UoNSU SpaceSoc](#)

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[www.spacesocnotts.com](http://www.spacesocnotts.com)

# Project Sunride

UNIVERSITY OF SHEFFIELD



## ABOUT US

Project Sunride is an ambitious team of 80+ hardworking engineering students from the University of Sheffield. The team ranges from undergraduates to masters students from more than 20 countries. Founded in 2017, Sunride has been expanding ever since, maintaining multiple rocketry programs and championing for innovation through their research. Sunride aims to make rocketry more accessible to students, and to become the first UK student-led team to launch beyond the Kármán line.

## ACHIEVEMENTS

- 2018: rocket AMY was awarded the James Barrowman Award for Best Flight Dynamics with an accuracy of 99.83%
- 2019: Sunride's HELEN broke the UK Open Altitude record at 36,274 ft reaching Mach 2.67
- 2020: Founded the 1st Sunride rocketry training programme to sign up over 250 students by 2023
- 2021: Won 1st place at the National Rocketry UKSEDS Championship with a record altitude of 4,836 ft
- 2022: Trained 7 junior rocketry teams submissions to National Rocketry Championship
- 05/2023: Five successful test launches including Sunride's 1st two-stage rocket, TR2



Project Sunride

sunride\_project

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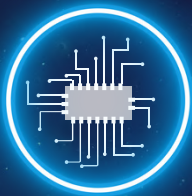
Participants: 80



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