

»»» ARTICLE FEATURE «««

LAUNCHING DREAMS INTO SPACE

BRISTOLSEDS

BY GOWRI SHANKAR SIVABALA



Team Odysseus with the founder of SpaceNXT Labs - Gowri Shankar (to the right)

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Dreamt of building rockets and exploring the cosmos? Bristol Students for the Exploration and Development of Space (BristolSEDS) offers the perfect launchpad for your ambitions!

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Explore the dynamic world of BristolSEDS as we delve into their engaging projects, hear firsthand accounts from students involved in the club, and learn how you can become an integral part of their inspiring journey into the vast frontier of space exploration.

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ABOUT BRISTOLSEDS

BristolSEDS, a branch of UK Students for the Exploration and Development of Space (UKSEDS), the UK's national student space charity, actively participates in events organized by UKSEDS, focusing on skill-building and knowledge-sharing opportunities related to space exploration. BristolSEDS contributes to the overarching mission of promoting space exploration among students while leveraging the resources and network provided by UKSEDS to enhance learning and collaboration within the space community.

Contrary to common belief, membership isn't restricted to engineering students. BristolSEDS welcomes current students from all backgrounds, offering workshops and activities designed to nurture skills in rocket science and beyond.

➤➤➤ HOW TO JOIN?

Members testify to the society's transformative impact on their university experience. From expanding social circles to enhancing technical and soft skills, BristolSEDS opens doors to personal and professional growth.

Are you a current student eager to join? Secure your membership on the Bristol SU website and immerse yourself in the thrilling world of space exploration.

For further details, visit: <https://bristolseds.co.uk>

**ANYONE
CAN LEARN
ROCKET SCIENCE**

Contrary to common belief, SEDS membership isn't restricted solely to engineering students; current students from diverse academic backgrounds are encouraged to join



LAUNCHING DREAMS INTO SPACE

THE TEAM

BristolSEDS boasts a diverse and dynamic team dedicated to pushing the boundaries of space exploration. From seasoned veterans to enthusiastic newcomers, each member brings a unique blend of expertise and passion to the table.

»»» LEADERSHIP COMMITTEE

The leadership team, led by George Burns as President, is fueled by a shared vision of innovation and progress. João David, the Vice President, epitomizes the society's spirit of discovery, having embarked on his space exploration journey through the UKSEDS Olympus Rover Trials.

Tom Snelling, serving as Treasurer, has a track record of success in rocketry competitions and financial management, ensuring the smooth operation of BristolSEDS. David Reid, as External Liaison Officer, leverages his extensive aerospace engineering background to forge valuable connections within the global space community.

James Hollingdale, the Secretary, brings a wealth of experience in rocketry and project management, steering the society towards ambitious goals.

Aarini Devasar, as Equality Officer, champions diversity and inclusion, fostering an environment of openness and acceptance.

Nick Balboa, the Events Secretary, orchestrates engaging social activities, while Louis Timperly, as Postgraduate Officer, leads efforts to expand postgraduate involvement within the society.

Together, this dedicated team embodies the spirit of exploration and collaboration, propelling BristolSEDS to new heights in the realm of space exploration.

For more information about BristolSEDS and its members, visit their website: <https://bristolseds.co.uk>

DIVERSE TEAM

BristolSEDS boasts a diverse and dynamic team comprising of seasoned veterans to enthusiastic newcomers, each member brings a unique blend of expertise and passion to the table.



ACTIVITIES

COMPETITIONS, CONFERENCES AND WORKSHOPS

1. UKSEDS National Rocketry Championship
2. UKSEDS Olympus Rover Trials
3. UKSEDS Satellite Design Competition
4. UKSEDS In-Orbit Service and Manufacturing (IOSM)
5. European Rocketry Challenge (EuRoC)
6. Mach-X conducted by Machrihanish Airbase Community Company (MACC) and UKSEDS
7. Hosted the National Student Space Conference in 2024 (with 600 delegates over 2 days)
8. Workshops on GMAT Mission Analysis, Soldering, Electronics and Coding
9. Open Rocket (rocketry aerodynamic modeling) workshop
10. Hosted Bristol regional of UK Space Design Competition
11. Airbus Defense and Space trip to Stevenage
12. Space Talks by industry leaders
13. Film night and Socials



PROJECTS

»»» COMPETITION AND CONTESTS

1. **UKSEDS National Rocketry Championship:** Provides university students hands-on experience in designing, building, and launching mid-power rockets, fostering skills in rocketry and technical report writing.
2. **Mach X:** Offers students practical skills development through high-power rocket design, construction, and launch, enhancing teamwork and mechanical engineering expertise.
3. **UKSEDS Olympus Rover Trials:** Challenges student teams to design, construct, and operate rovers for analog sample return missions to Mars, promoting systems engineering and space mission skills.

4. **UKSEDS Satellite Design Competition:** Tasks students with designing and building CubeSat prototypes to address challenges in space debris management and lunar exploration, simulating real-world project workflow.
5. **UKSEDS In-Orbit Servicing and Manufacturing:** Engages students in designing and pitching missions in emerging space industry fields like in-orbit servicing, providing interdisciplinary experience and industry mentorship.
6. **UK Space Design Competition:** Simulates industry life for secondary and sixth form students, challenging teams to design space settlements and present to industry judges, promoting STEM careers.

7. **UK Race To Space:** Offers student teams access to resources, mentoring, and testing opportunities to accelerate engine capabilities and foster connections with the UK space industry.
8. **European Rocketry Challenge:** Europe's first rocket launch competition for university teams, providing a platform for European collaboration and showcasing rocketry expertise.

HANDS-ON EXPERIENCE

Participating in space challenges offers invaluable hands-on experience, allowing individuals to immerse themselves in practical learning opportunities within the realm of space exploration.



PROMETHEUS

The Prometheus Project, undertaken by BristolSEDS, marked a significant leap forward in rocketry for the team. With lessons learned from previous endeavors, the team aimed to enhance the Albatross design for Machrihanish.

The project's core concept was ambitious yet straightforward: a 1.2m wing span fixed-wing drone as payload atop a 2.4m tall rocket powered by a Cesaroni 4 grain L1115 solid rocket motor. Over eight months, the team meticulously worked on various aspects, dividing into Launch Vehicle and Payload sub-teams, each responsible for crucial components such as aerodynamics, electronics, and recovery mechanisms.

➤➤➤ LAUNCH DAY

Innovative approaches characterized the project, from designing and prototyping drone mechanisms to handcrafting fiberglass tubes for the rocket's structural integrity. As launch day approached, preparations intensified, culminating in a meticulously packed car filled with every conceivable necessity for a high-powered rocket launch in the Scottish Highlands.

Despite logistical challenges and a perfectly timed launch campaign, the Prometheus Project soared to success, demonstrating remarkable engineering prowess. While the drone's fate saw it drift into the Scottish wilderness, the team celebrated a triumphant achievement, affirming their status as aspiring rocket scientists.

AN AMBITIOUS PROJECT

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WHAT DO MEMBERS SAY?

TESTIMONIALS



"It was fantastic collaborating with a diverse group of individuals and working as a team"
-Maryam Latief

"Contributing to space, rover projects, and rocket building was truly rewarding."
-Ori Taylor



"We had ample opportunities to hone our presentation skills, which was invaluable."
-Man Wui Fung

"Working on a multidisciplinary project was an amazing experience."
-Joshitha Sivakumar



"The projects not only enhanced our soft skills but also sharpened our software skills like MATLAB ."
-Owain Jones

"An amazing platform to work as a team and develop communication skills"
-Rishi Tyagi



The projects not only enhanced our soft skills but also sharpened our software skills and communication abilities

-Team Odysseus (BristolSEDS)

**GAINING
INVALUABLE
SKILLS**



PROPEL

>>> SUPPORT SPACE EXPLORATION TODAY

BristolSEDS is pioneering the next generation of space exploration enthusiasts and professionals. With your supporting, they can soar even higher. Here's how you can contribute:

1. **Sponsor a Team:** Propel BristolSEDS to new heights by sponsoring a team. Your support enables them to compete in rocketry competitions and space-related events, pushing the boundaries of innovation.

2. **Offer Projects/Internships:** Are you part of an organization looking to collaborate with passionate and talented individuals in the field of space exploration? Consider offering projects or internships to BristolSEDS members. Your mentorship and real-world opportunities can empower students to gain valuable experience and make meaningful contributions to the industry.

3. **Buy Merchandise:** Show your support with stylish gear from their personalized clothing store. Every purchase helps fund their activities and projects, fueling their passion for space exploration. Visit the link below to explore their collection.

<https://personalised.clothing/bristolseds>

4. **Spread the Word:** Share this article with your network! By raising awareness about BristolSEDS and their mission, you can help attract more support and resources to fuel their endeavors.

Your support fuels the passion for space exploration, and you can inspire the next generation of space explorers to launch their dreams into space.



ABOUT THE AUTHOR

Gowri Shankar Sivabala is a member of the University of Bristol Alumni Association Committee and a mentor on several prestigious platforms including UKSEDS. He is also the founder of SpaceNXT Labs and several other startups across the globe.

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