2019/20 has been a formative for UKSEDS, with better, more innovative events, collaboration and motivation to impact the sector than ever before. Our reach has grown further than we could imagine: geographically, with events held from Goonhilly to Belfast to Edinburgh; financially, with a 25% increase in our income this year; and with UKSEDS representation at everything from music festivals to international conferences.

SpaceCareers.uk has hit over a million views, with visitors ranging from schools, industry, universities and government professionals. The careers team has also hosted the most events we’ve ever put on, with Careers Launch becoming a brand of its own, and further contributing in bringing outreach to schools. This year has also seen our first terra_Nova event, a hackathon hosted by the University of Edinburgh with a focus on the United Nations Sustainable Development Goals.

Diversity and inclusion remain core to our strategy as an organisation, both in ensuring that our operations resources and activities are as accessible as possible to our staff and members, and also in advocating for improvements in the wider space sector at events such as the National Astronomy Meeting, the Symposium for Space Educational Activities, and the H-Space conference. We continue believe that a successful UK space sector is one that is inclusive to people from a variety of backgrounds and experiences.

I am constantly taken aback by the dedication and commitment that the young people who volunteer for UKSEDS show. Several have been recognised for their exceptional work: this year, former Treasurer Heidi Thiemann was named winner of the Sir Arthur Clarke student award, with current acting-Secretary Sophia Lee Roberts named runner up.

My time as Chair of UKSEDS at a time where the organisation has seen significant growth has been one of the most rewarding and memorable experiences in my career. I have seen some of the most inspiring and empathetic emerging student leaders work hard to bring the wonder of space to more people across the country. Through careers and outreach events, competitions, and hackathons, they have made the sector more inclusive and accessible. I have had the pleasure of working with a fantastic and dedicated Executive Committee to create a platform for further sustainable growth, and have no doubt that the incoming committee will do a smashing job. UKSEDS remains a charitable organisation which puts the mission of making the space sector open to all first, and does that by collaborating with wonderful people and organisations, and it has been an honour to lead it.

Anuradha Damale
Chair
Our mission is to engage young people with the space sector.

We have a vision of a thriving UK space sector in which young people play an active role.

We want to be an organisation that is an integral part of the UK’s space sector, and that is recognised and engaged with as such by industry, government, and academia.

For students, we want to be the go to place for space careers information, and provide a wide range of opportunities to gain new skills and engage with the sector.

For the sector, we want to be the organisation that others come to when they are looking to recruit and engage with students.

Our strategy to achieve this focuses on four key areas:

**Education**
Advancing our members’ knowledge, skills, and experience

**Outreach**
Promoting space to the public and school students

**Advocacy**
Representing and advocating the role of students within the space sector

**Operations**
Working ‘behind the scenes’ to enable our other activities
Education

Our education programme aims to advance university students’ knowledge, skills, and experience so that they are equipped to be active members of the UK’s space sector.

The core parts of this programme are our careers website and our events, competitions, and projects, which provide opportunities to gain new skills and experience, both ‘soft’ and technical.

A key objective for the year was to increase the range of topics and locations of our events, to demonstrate the breadth of the sector and enable as many students as possible to learn.

SpaceCareers.uk

2019 was a year of major milestones for our early careers site, SpaceCareers.uk. In June the website hit 1 million views since launch in December 2015, and October was the first month it received more than 10,000 visitors, with total views up more than 30% over last year. A wonderful and growing team have expanded our careers resources with new advice articles and interviews to help a wider range of people wanting to get into the space sector, and have reached over 1000 students through career events and fairs across the UK.

Our careers events calendar saw multiple new additions this year. In November we hosted the first Careers Launch Online, a free webinar series in collaboration with space sector professionals that proved to be a great success. In addition, following a well received first Careers Launch event for 15-18 year-olds in Edinburgh last March, we ran a full day event for Cornish school students at Goonhilly Earth Station as part of our effort to target different areas of the UK, as well as another evening event in Birmingham on the eve of the National Student Space Conference.

Events Programme

Careers Launch at Reinventing Space
November 2019 | Belfast | 50+ attendees

November saw the first ever UKSEDS event in Northern Ireland as we headed to Belfast to run our annual Careers Launch event at the Reinventing Space Conference. Students and graduates travelled from all over to learn about careers in various areas of the space sector and get practical advice from the likes of SSTL, HE Space, and STFC. We are hugely grateful to the British Interplanetary Society for hosting the event once again, and to all the speakers and speed mentors for giving up their time.

terra_Nova Hackathon
January 2020 | Edinburgh | 65+ attendees

This year we held the first UKSEDS hackathon, which challenged students to address one of the UN’s Sustainable Development Goals using satellite data over the course of just 24 hours. The hackathon was aimed at students with some programming experience, but no prior experience of Earth observation data. A number of workshops gave participants the basic knowledge and skills needed to access and process satellite imagery, and expert mentors helped students with their projects as they progressed. It was a hugely successful event, so we plan to host more in the future.

Symposium for Space Educational Activities
September 2019 | Leicester | 120+ attendees

In September, UKSEDS co-hosted the third Symposium for Space Educational Activities at the University of Leicester, along with the National Space Academy and ESA. This international conference saw academics, students, educators, researchers, and industry professionals come together to share lessons learned and best practice in tertiary space-based educational activities. The conference was a resounding success, not least thanks to UKSEDS’ wonderful volunteer team on the ground. Extra congratulations go to Rachael Dixon for being awarded a prize from the organising committee for presenting her paper Space Academy: a journey from hospital to Mars.

National Student Space Conference
March 2020 | Birmingham | 500+ attendees

This year, our annual conference was at the University of Birmingham. We had panels on lunar exploration, the use of space data, diversity & inclusion, and sustainability, as well as talks from sector experts, including a keynote from former NASA astronaut Dr Kathryn Sullivan, the first American woman to walk in space. For the fifth year running we are collaborating with Airbus Defence and Space to bring their student presentation competition to the conference. In addition, we have introduced a new opportunity for winners of UKSEDS competitions and branch members to present work they’ve been doing throughout the year.

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Competition

National Rocketry Championships
30 teams
Our National Rocketry Championships (NRC) challenge teams to design and build a mid-power amateur rocket with the goal of reaching the greatest apogee. This year marks the seventh instalment of the competition and has seen another jump in entrants from 22 to 30 teams. They are currently working towards their design and build deadline in early April. The NRC continues to be a platform for students to expand their knowledge and learn from experts. Team Enillwyr from our University of South Wales branch won last year’s competition reaching an altitude of 909m. Interesting features of their rocket included its 3D printed fin-can and the integration of its altimeter into its nose cone to enable a shorter and lighter body.

Satellite Design Competition
9 teams
Our third Satellite Design Competition (SDC), in partnership with SSPI, has seen an expansion and new direction this year. Thanks to a new partnership with Open Cosmos, the competition has expanded to include a build and test phase, where competing teams have the opportunity to design and construct a nanosatellite payload. The payload will be integrated on-board Open Cosmos’ 3U beeKit platform and will be tested inside a ‘Mystery Room’ where their payload must acquire and analyse as much information as possible.

Teams are currently working towards their Critical Design Review deadline when their work will be reviewed by industry experts. Their designs will be put to the test at a challenge day in July.

Last year, team GE Aviation, a team of interns, won the competition with a design that made use of a servo-operated robotic arm to collect sample canisters. Additional prizes went to Cranfield University’s Team Furiosity, Imperial College’s Team Ares, and Southampton University Spaceflight.

Advocacy

Our advocacy programme aims to promote the views and concerns of students and young people within the space sector. In particular we campaign for greater support of students, the involvement of students and diversity in the development of strategy and policy.

Diversity & Inclusion

This year saw a continued emphasis on our aim to make the space sector inclusive and accessible. In March 2019, Áine O’Brien attended the 50th Lunar and Planetary Science Conference in Houston, Texas and presented a poster on UK student perspectives on diversity in the space sector. Whilst there, she was interviewed for the popular WeMartians podcast (from whose listeners she had received a scholarship to attend) talking about UKSEDS’ work in the area.

In July, Anu Damale and Heidi Thiemann attended the National Astronomy Meeting in Lancaster, and Anu gave a talk about UKSEDS’ advocacy work in diversity and inclusion.

Áine also presented our work on D&I at the 3rd Symposium for Space Educational Activities (SSEA) in Leicester, and chaired a panel discussion with educational experts, policy makers, and students on how to make the sector more inclusive. SSEA 2019 saw the conference’s first dedicated session on diversity and inclusion thanks to our involvement in the organising.

Careers Education

In February, Jacob Smith and Sophia Lee Roberts presented a paper titled The importance of educating students about careers in the space sector: A student perspective, at the H-Space conference in Budapest. They presented data collected through surveys distributed to universities and schools to identify reasons students are deterred from careers in the sector, and proposed some ways of addressing these issues.

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Outreach

Our outreach programme is focused on promoting space to the public, including primary, secondary, and parts of further education. We believe a good public understanding of space and its importance to life on Earth is vital to the growth of our space sector.

This year we have attended a number of outreach events, including at schools across the country and the Science Museum’s Summer of Science. Several of our activities were particularly unusual, including a concert by OneSound, and a collaboration with a theatre company for a production of Earthrise, a musical commemorating the 50th anniversary of the Apollo 11 launch.

We received £1000 of funding from the Space For All grant which has been used to run the Student Space Ambassadors training workshops, and to help cover the cost of running a number of outreach events throughout the year.

Student Space Ambassadors

Our outreach team is joining forces with ESERO-UK again this year to host four more Student Space Ambassador training workshops. The Ambassador scheme aims to give volunteers the skills to host their own space outreach events, and tools to help engage and teach the next generation, and to find schools and science fairs to take their knowledge to.
Membership & Alumni

This year, at our annual conference, leaders from our affiliated branches met to discuss how our resources can support them more effectively. The results of this discussion will contribute to our effort in developing a more sustainable and supportive platform for young people in the UK space sector.

Our membership team is working to provide volunteers with more opportunities for personal development, offer further support and guidance to our branches, and to get interested alumni working more closely with current members through mentorship programmes.

We continue to receive generous support from our alumni who have spoken at our events, connected us with sponsors, and offered advice and guidance.

Systems

As a remote organisation, we rely a great deal on effective systems for communicating and keeping track of everything. The tech sector’s generous support for charities means that we are able to use professional software at no cost.

In the past year, we have been working on a replacement for the UKSEDS website, which we are planning to launch in the near future. We have also been expanding the functionality of the different tools which we operate and have continued to provide technical support for our team of volunteers.

Operations

Our operational programme concerns our work ‘behind the scenes’ to enable our other principal activities. Without a motivated staff backed by effective systems we aren’t able to achieve anything.

Partnerships

We are proud to be part of a supportive global space community. We continue to have good relationships with our sister SEDS organisations overseas, as well as other student groups like EUROAVIA, and the Space Generation Advisory Council (SGAC).

Space & Satellite Professionals International (SSPI)

We have continued our valued partnership with SSPI, organising another Satellite Design Competition, and attending the Better Satellite World Awards Dinner in December. We are excited to continue working together in the coming year.

UK Space Agency

We have received lots of support from the UK Space Agency again this year. We received funding as part of their Space For All grant scheme to expand SpaceCareers.uk, to host a number of Student Space Ambassador training days, and to attend outreach events.

ESERO-UK

This year, we partnered with ESERO-UK to launch the Student Space Ambassador scheme and put on workshops across the UK. See page 10.

EVONA

We have established an exciting new partnership with space sector recruitment firm EVONA, with whom we are running career-related webinars. Our members benefit from learning about employment opportunities within the sector, routes into different fields, and skills employers are looking for.

British Interplanetary Society (BIS)

As ever, we are hugely grateful to BIS for their continued support. Through Gill Norman, one of our wonderful trustees, we receive helpful guidance and advice on the vision and strategy of the charity. BIS generously provides a slot for us at the annual Reinventing Space Conference, where we run a day-long careers conference for students. See page 7.

ESA, the University of Leicester, and the National Space Academy

We partnered with ESA, the University of Leicester, and the National Space Academy this year to run the 3rd Symposium on Space Educational Activities, which provides an international stage for students and academia to discuss current and future space educational activities in Europe and beyond, focusing on university level activities, as well as opportunities for students and educators at high school.

Space Skills Alliance (SSA)

We are delighted to have partnered with the Space Skills Alliance, a new think tank set up by UKSEDS alumni Heidi Thiemann and Joseph Dudley. As part of our partnership we are sharing data we have gathered from SpaceCareers.uk to support SSA in understanding and address the space skills shortage.
Legal Changes

In 2017 we started the process of changing our legal structure from an unincorporated charity to a Charitable Incorporated Organisation (CIO). The new charity was approved by the Charity Commission just before last year’s Annual General Meeting. Since then, we have set up a bank account for the new charity and are now winding down the old charity. From our 2020 AGM onwards, we will be operating all of our events under the new charity.

Finances

The 2018-2019 financial year was excellent, with an income in excess of £50,000 and an end of year balance on close to £28,000. It should be noted that about £6,500 of this is remaining income from SSEA (see events), which is due to be split with University of Leicester during the current financial year. Our end of year accounts show a surplus of over £10,000, which is extremely encouraging when it comes to ensuring the future financial stability of UKSEDS. We are also due to receive a further £4,400 as part of the Space For All grant for outreach expenses incurred this financial year.

Our biggest expense was the our annual conference, but thanks to our generous sponsors we were able to ensure that ticket prices remained affordable, provide £1000 of travel grants to groups travelling long distances, and make a surplus that will fund our activities throughout the year.

We are always looking to ensure we make best use of our funds and will continue to reinvest the money into outreach, travel grants, and project funding.

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UKSEDS

We are a registered charity no. 1182239

Our charitable objects are to advance education for the public benefit, by making a forum for the communication and exchange of ideas between students, educational establishments, industry and the general public; and to act as a resource for young people in the UK with an active interest in space, by providing advice and assistance to improve their knowledge base, skill sets, and hands-on experience.

Our Trustees and Executive Committee are elected by the Membership in accordance with our Constitution, and plan our activities with regard to the Charity Commission’s guidance on public benefit, our Objects, and our long term strategy.

**Trustees**

Anuradha Damale (Chair)

Rachael Dixon

Lewis Lappin

Sam Bond

Arran Reedman (Treasurer)

Steven George

Portia Bowman

Craig Brown

Matthew Goodman

Gillian Norman

Kerry Sanz

Graeme Taylor

**Executive Committee**

Anuradha Damale (Chair)

Rachael Dixon (acting Vice Chair)

Sophia Lee Roberts (acting Secretary)

Arran Reedman (Treasurer)

Lewis Lappin

Steven George

enquiries@ukseds.org

@UKSEDS

facebook.com/UKSEDS

27/29 South Lambeth Road

London SW8 1SZ

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**Staff**

Emmanouil Apostolidis

Sam Bond

Charlotte Crawshaw

Alex Crossman

Joseph Dudley

Antonia Dudulanan

William Eassdown

Jeanne Frebault

Olivia Freestone

Jessica Goldie

Lucy Harrison

Lilli Helps

Manisha Kushwaha

Sarah Latham

Goh Lian Ming

Christina MacLeod

Laura Martin

Donal McCaughhey

Louise McCaul

Jack McHugh

Annabelle Meech

Sara Mataghian

Aine O’Brien

Craig Orrock

David Parfitt

Sach Reddy

Jack Rosenthal

Zaria Serfontein

Ross Slater

Jacob Smith

Amy Stockdale

Theodora Strati

Caroline Swenson

Tee Joy Taiwo

Heidi Thiemann

Em Truman

Meg Wilks

Armin Ziadlourad

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SPACEBIT Raytheon

OUR SPONSORS AND SUPPORTERS

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