



ODYSSEY

The regular newsletter from the Space Science
Environmental & Engineering Foundation.

News from the EU finals



Great fun was had online with the European Space Design Competition finals on 1st and 2nd April. This year, our finalists were drawn from all over Europe, either via the online [all-EU regional-heat](#), or from specific events in Italy, Portugal, Spain and Romania. This meant some parts of teams were on different timezones from each other, but all organised themselves well.

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News from the UK and Regional finals



The list of events leading up to the UK SDC finals has been impressive (and takes serious administration efforts from Jenny, Sam and Bethan plus many volunteers).

In November 2022, regional heats were started in London, Oxford, York, Cardiff and later online. In addition, new for UKSDC, was the season kicking off with an inaugural Seraphim/Dentons event which was targeting schools never previously involved. It was a great success, and a hit with veteran volunteers as well as new participants.

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News from a new UK regional. SERAPHIM DENTONS



The idea for a new East London regional event was put forward by one of our volunteer SSE²F Trustees, Trisha Saxena. Trisha is a veteran of the UKSDC from when she was in school and was even part of a winning team at the internationals. She now works for Seraphim which is a space venture capital firm. It collaborates with law firm Dentons, which has a specialist patents division. This co-hosted event was a great success and was held in the main conference facilities of Dentons offices near the Old Bailey in London.

The Head of Seraphim Space, Mark Boggett, and the head of Patents for Dentons, Justin Hill, both attended the competition and were judges.

These veterans of space industry proposals pointed out to the participant students that the competition is impressively realistic. They remarked that, in real life, they co-host workshops for entrepreneurs who seek to launch their space business as a public company. They felt that some technical pitches being made by the school students were actually better than the first attempts by some adults who'd never had exposure to experiences like the space design competition. Their point is that a regional event, let alone a final with its bigger teams, constitutes valid real-life training, and should be valued.

ENVIRONMENTAL DESIGN CHALLENGE 2023



The space design schemes have a new sibling! The Environmental Design Challenge launched in London in February.

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Galactic Challenges

The Galactic Challenges were held online and in-person. The online GC featured many students across 3 teams. It was a happy and successful effort by children well-experienced in working online, due to recent history.

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MEET A JUDGE



Dr Bertrand Goldman from the ISU

Dr Bertrand Goldman is a great supporter of the EU Space Design Competition and was one of the fabulous team of judges at the EU Finals in early April 2023. Bertrand is an Astrophysicist who teaches at the ISU after doing post-doctoral research at the New Mexico State University and the NASA Ames Research Center. Just so that you appreciate the expertise on offer amongst judges, we've spotted that Bertrand lists his technical specialisms on the ISU website. We don't want you to feel pressured (because, like all of our wonderful judges, he takes your proposal design work seriously without having inappropriate expectations of people who are not yet at university) but we think his specialisms are rather cool!

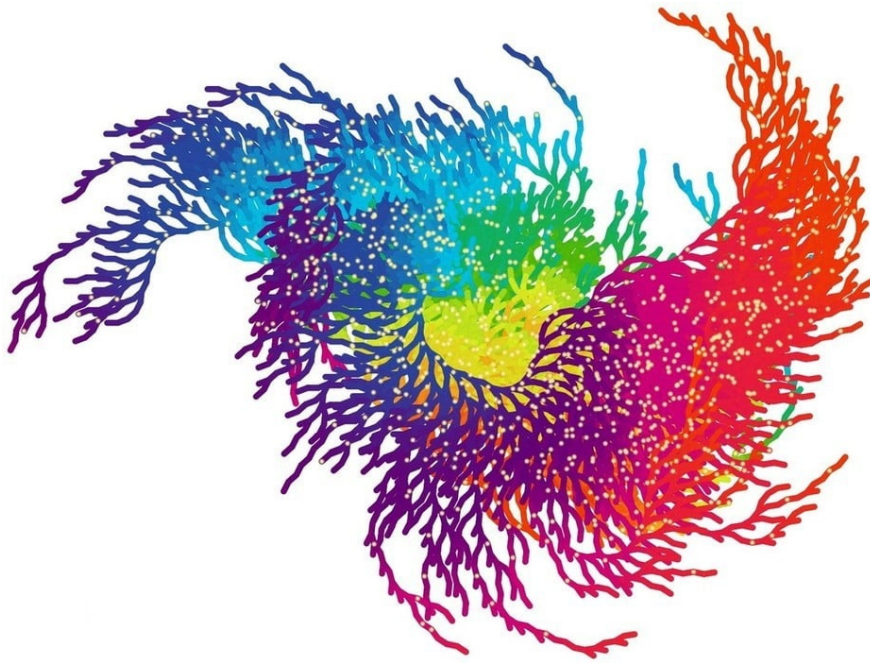
- Ultra-cool dwarfs and low-mass stars;
- Open clusters and stellar streams
- Microlensing
- Galactic dark matter, cool white dwarfs
- Large datasets
- Data mining

MY FAVORITE EQUATION

The Collatz conjecture.

Possibly one of the simplest mathematical equations, and yet no one has ever been able to solve it. It's known as the 'Soul of Mathematics'

For more information- [Click Here](#)



NEWS

We look at the latest space news from around the world.



**Soft Robotics
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Langley**
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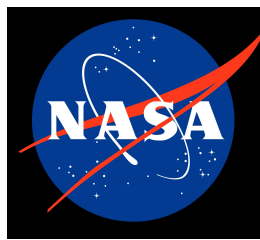
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FEATURE

SUPER MUMS

Some of the winners from the regional heat, held at the University of York, faced a snow crisis to get to the UK finals.

Rachel Ott (Right) and Eileen Bamford (Left) saved the day for The Brooksbank School as the team was in danger of not being able to get to London.

Due to a snow day, school trips were cancelled, so these magnificent mums saved the day, renting their own minibus and getting at least some team

members to the event.



SPACE FACTS

MERCURY



- Mercury appears to have 2 sun rises.
As Mercury is moving very fast in its elliptical orbit around the Sun, each rotation is not accompanied by sunrise and sunset like it is on most other planets. The morning Sun appears to rise briefly, set, and rise again from some parts of the planet's surface. Because of this orbital-rotational resonance ratio of 3:2, a fictitious observer on Mercury would see that a solar day from noon to noon would take about 176 Earth days to complete.
- Because Mercury rotates slowly. One rotation takes nearly 59 Earth days to complete.
- Mercury is the smallest planet in our solar system. It's only slightly bigger than the earth's moon.
- Temperatures on Mercury are extreme. During the day, temperatures on the surface can reach 800 degrees Fahrenheit (430 degrees Celsius). Because the planet has no atmosphere to retain that heat, night time temperatures on the surface can drop to minus 290 degrees Fahrenheit (minus 180 degrees Celsius).
- Mercury's thin atmosphere, or exosphere, is composed mostly of oxygen (O₂), sodium (Na), hydrogen (H₂), helium (He), and potassium (K).
- Mercury is the fastest planet in our solar system – traveling through space at nearly 29 miles (47 kilometres) per second. The closer a planet is to the Sun, the faster it travels. Since Mercury is the fastest planet and has the shortest distance to travel around the Sun, it has the shortest year of all the planets in our solar system – 88 days.
- Two NASA missions have explored Mercury: Mariner 10 was the first to fly by Mercury, and MESSENGER was the first to orbit. ESA's BepiColombo is on its way to Mercury.

UPCOMING EVENTS



The Global Space Design Challenge (GSDC) is one of the most exciting events in the world of STEAMM education. Our annual event is taking place this summer from 19-24 July at Imperial College London. During the week-long event, participants will work in teams to design a space settlement. This challenge will contain real-world problems and will require participants to use their creativity, technical skills, and teamwork abilities to find innovative solutions.

The GSDC is a unique opportunity for participants to gain hands-on experience in the field of space exploration. They will also have the opportunity to network with industry professionals and other like-minded individuals who are passionate about space exploration.

At the end of the week, teams will present their designs to a panel of judges.

Places are still available to book by [CLICKING HERE](#)

All prices include the programme at Imperial College London, food and accommodation. For further information please visit gspacedc.com



SPACE MUSIC MOMENT

Time for a bit of musical entertainment.

On the 12th April 1961 (62 years ago), Yuri Gagarin made history by being the first person to journey into outer space.

To see dancing cosmonauts, coupled with the actual broadcasts from the time, [Click Here](#)

To find out more about Yuri's 108 minutes flying around our planet [Click Here](#)



CAREERS IN SPACE



UK Space Agency

Mars Perseverance - Space Careers
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International Space University

Have a look at online courses at the



ISU.
[Click Here](#)



Work experience in the space sector

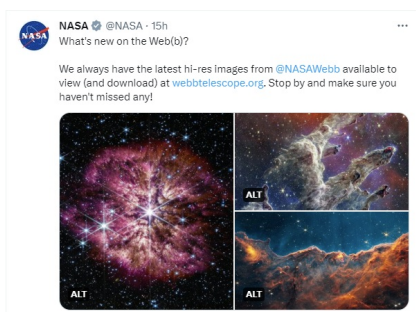
SpaceCareers.UK show you how.
[Read More](#)

#SPACE ON SOCIAL

NASA Blogs
[Click Here](#)



If you're interested in learning more about space then there is so much information out there on social media. Here's selection of some recent #space tweets and videos. Why not follow some of the sites to keep up to date with all the latest news?



@NASA
The latest images from space
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International Space Station @Space.Station · 14h
@NASA's Curious Universe podcast goes "To the Stars with Astronaut Jessica Watkins" on the series' season finale! Listen in as @astro_watkins shares her experience living on the space station as part of Crew-4. [go.nasa.gov/3zR0kXm](#)



@Space_Station
To the stars with Jessica Watkins
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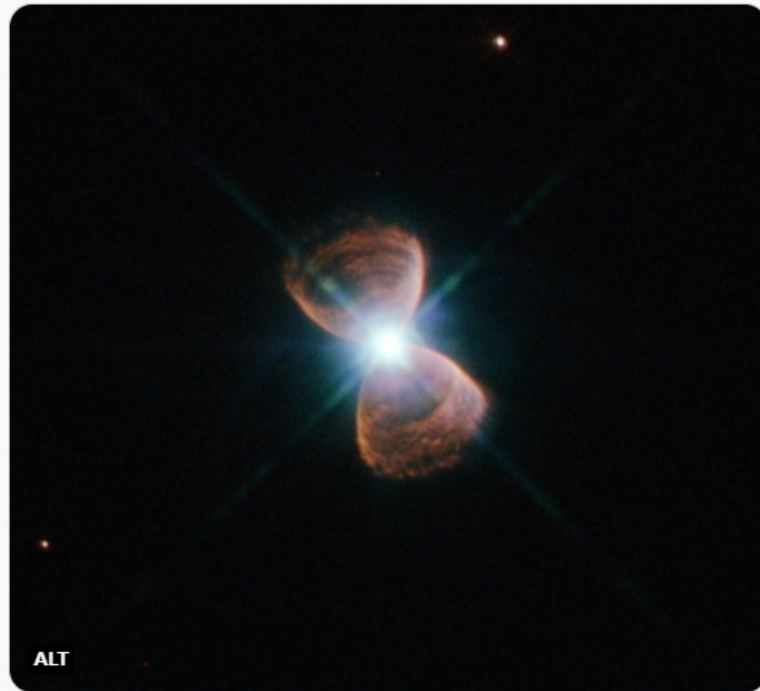
Hubble @NASAHubble · 19h

Butterfly? Hourglass?

Nope! This #HubbleClassic shows a star at the end of its life, casting off its outer layers.

The double-lobe structure was created as material funneled towards the poles of the star at the center.

Read more about "Hubble 12": go.nasa.gov/3Kq4psi



GOOD NEWS STORIES

Do you or your school have a good news story about taking part in one of our events?

If you do, we'd love to hear from you so we can feature it in one of our newsletters.

Get in touch with any good news stories!

[Here's How](#)

We're all interested to hear stories about the positive benefits that participation in the space design competition (or the new environmental design challenge). Many possible themes exist. A paragraph (and an image) would usually suffice.

Our advice: pick a single **'who'** and a single **'how'** to keep your story specific. **"Who" could be** schools, teachers, groups of students, individual students (privacy permitting) and/or parents/carers/supporters. **'How' means 'Impacts'**: here are some of the impacts that we'd love to hear about. What happened? How did you recognise the impact?

- appreciation of "multidisciplinary" knowledge (learning STEAMM/business ideas)
- skills in collaboration, creativity, cooperation and critical thinking, coping, caring, championing and client-responsiveness
- willingness to engage (with topics, problems, meetings, people,

research...)

- attitudes towards self, attitudes towards others, trust, confidence
- recovery-from-error, perseverance
- communicating graphically, visually, speaking, Q&A-ing
- shyness, confidence, questioner, explainer, STEAMM thoughtfulness,
- project management, self-management, negotiation, role-identification, listening, speaking-up, toning-down,
- openness to ideas; ability to extrapolate from own experiences; ability to check, research, confirm, choose, decide, value.

For any students or volunteers who may be trying to capture their experience as evidence, for scholarship applications, admissions forms or a CV, this list provides useful prompts. Do analyse your experiences to spot the causes of your own development and do tell us about it.

GET INVOLVED

If your school would like more information on any of SSEF's programmes, please contact Jenny Lyons - j.lyons@uksdc.org

Other ways to get involved with the SSEF

[Become a Sponsor](#)

[Volunteer](#)

THANKS TO OUR SPONSORS & SUPPORTERS

Sponsors give us grants and advice. Supporters provide venues and assistance. All of our wonderful volunteers and judges deserve our great thanks, but we also thank the universities who hosted regional events: Oxford Brookes University, Cardiff University, Imperial College London and University of York. Thanks also go to Bede's School in Sussex for hosting the largest-ever Galactic Challenge event, as well as the Sussex regional SDC, and Seraphim Space and Dentons Law for hosting our new East London regional.

Students will never forget the people they meet, the friends they make, or the supporters who help them. Backing the SSEF is not a one-way street. Sponsorship is as advantageous for you and your future as for the young designers and explorers of tomorrow.



Thanks for reading.

We're a charity! Please donate to SSE²F by contacting Sam Hession at s.hession@ssef.org.uk.

Charity registration number 1170548

**Space Science Environmental & Engineering
Foundation**

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