

European Space University for Earth and Humanity

UNIVERSEH is an alliance of five European universities established to develop a new way of collaboration in the field of Space, within the "European Universities" initiative.

The alliance aims to create new higher education interactive experiences for the university community, teachers and students, and for the benefit of society as a whole. Such initiatives will enable broadminded, informed and conscientious European citizens to capture and create new knowledge and become smart actors of European innovation, valorisation and societal dissemination within the Space sector, from science, engineering, liberal arts to culture.

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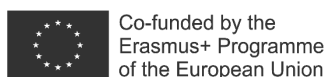
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CO	Confidential, only for members of the consortium	

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Document History

Version	Date	Author	Partner	Summary of main changes
1	07/10/22	Katarzyna Cieślak	AGH	Final draft

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Students' Conference on Diversity and Inclusion in the Space Sector

Kraków, 20.05.2022

Introduction

The Space Sector can be perceived as exclusive, intended only for the most privileged individuals. It can also be viewed as connected solely to technical sciences and not having anything to do with other scientific domains. But we believe that **space is a truly interdisciplinary arena where all are invited**, and all are needed.

During the second Students' Conference on Diversity and Inclusion in the Space Sector that took place at the University of Science and Technology in Kraków on 20.05.2022 we wanted to focus on **interdisciplinarity and intercultural collaboration**. Therefore, students from the organizing team proposed an event in the form of a challenge. Participants were divided into teams of four and presented with different tasks to be solved collectively. Teams were deliberately mixed in terms of students' country of origin and major to stimulate intercultural and interdisciplinary collaboration.

The tasks were all space related but designed to be fit for students of all disciplines. For example, in the first task, students had to prepare a menu for astronauts on a space station using input data about calorie requirements, food options and preferences. This was a difficult task that required calculations, creativity and, most importantly, collaboration. In other tasks students were required to rapidly learn space-related vocabulary in a foreign language because space collaboration requires multilingualism. There were also constructing tasks and puzzles to be solved. One of the constructing tasks were to build Mars Lander based on household materials. Participants divided into groups played the role of space agencies, each of them had to build a lander capable of bringing one cosmonaut to the surface of Mars (a delicate egg). The team that made a safe landing was the winner. It was the favorite task in the evaluation form after the conference. Another assignment was to recognize which place on Earth is presented on the satellite images. Each team had 20 seconds to analyse each of the 20 Copernicus Sentinel images depicting various location around the globe. To highlight the inclusion of the space sector students were asked in one task to record a daily vlog from the space station targeting different audiences: kids, seniors, STEM or social sciences students. The vlogs that received highest evaluation by the judges were presented by the end of the conference to all the participants.

Experts were invited to help rate the teams' performance and to observe the teams' collaboration in terms of their innovative and flexible approach to task resolution. The expert team featured:

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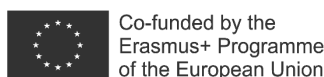
- Dr Agata Kołodziejczyk - Director of Scientific Projects at Analog Astronaut Training Center, creator of Polish Analog Research Stations. Organizer of multiple lunar and Martian analog missions. Astrobiologist and former biomimetics expert at the European Space Agency.
- Rafał Czarny - psychologist, trainer and designer. Builds and develops the innovative brand Inprogress Design Lab. Author of Design Thinking methodology (DTMethod) and educational board games.
- Christina Stange-Fayos - University Professor at Toulouse Jean Jaurès. Vice-President for European and International Relations, deputy director of CREG (Centre for Germanic Research and Studies). Specialist in i.a German-language periodicals from the 18th to the 20th century.
- Dagmara Stasiowska - PhD Candidate at AGH UST in Biomedical Engineering discipline. Member of Mensa and Polish Astrobiological Society AstroBio. Former leader of the Stratospheric Balloon and Rocket Payload Team in AGH Space Systems Students' Association. Her thesis regards the impact of the G-force on honeybees and the possibility of simulating occurring changes with the computer model.
- Bartosz Andrzejkiwicz - Mechanical Engineering student on WIMIR AGH. Coordinator of Events Committee in ESN AGH. Former Social Inclusion Coordinator in ESN AGH.
- Aleksandra Smela - Computer Science student on WIET AGH. Active member of Events and PR committees in ESN AGH. As Social Inclusion Coordinator in ESN AGH focuses on making all groups of international students feel included.

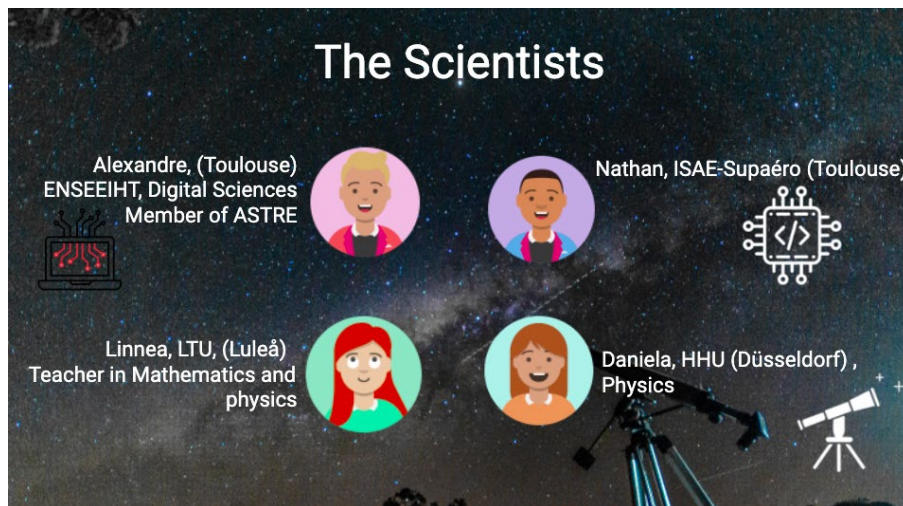
The best four teams were rewarded. The winning team will have a chance to participate in the **Analog Astronaut Training**. The other three teams will take part in online **Design Thinking Method** accredited workshops provided by **Inprogress Design Lab**, one of the partners of the event.

Additional events related to the Conference:

1. Prior to the event AGH UST hosted a Pre-Conference online event in order for the participants to get to know each other. Some of the icebreakers are shown here:

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2. For the conference the organizers asked students to prepare profiles of diverse people from the space sector. We received 31 profiles which were presented during the conference. Some of the profiles:

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Thomas Pesquet

French ESA astronaut, the first European astronaut to launch on board the Crew Dragon of SpaceX and first French commander of the ISS.

Thomas Pesquet (44 years old) is a French aerospace engineer, pilot and ESA astronaut.

In 2001, he obtains his master's degree from ISAE-SUPAERO (National Higher French Institute of Aeronautics and Space) in Toulouse. In 2006, Pasquet graduated from the Air France flight school. He gets a Airline Transport Pilot License-Instrument Rating (Highest level of aircraft pilot certificate).

He was selected by ESA as a candidate in May 2009. He passed his training in November 2010. From November 2016 to June 2017, he was part of 2 expeditions as a flight engineer (The Proxima Mission). In 2018, he gained his Airbus A310 type rating and is qualified as a Zero-G aircraft pilot (parabolic flight). He returned to space in April 2021 on board the SpaceX Crew Dragon (The Alpha Mission) as the first French commander of the ISS.



Katherine Johnson

"Girls are capable of doing everything men are capable of doing. Sometimes they have more imagination than men."
—Katherine Johnson

Katherine Johnson was a NASA mathematician who played a key role in numerous NASA missions during the Space Race, perhaps most notably calculating the trajectory needed to get the Apollo 11 mission to the moon and back.

What's even more notable is that she was handpicked to be one of the three black students to integrate West Virginia's graduate schools during a time of heavy segregation and ended up graduating with highest honors in 1937.

As one of the first African-American women to lead the future of space technology she's a huge inspiration for us all.



Photo: NASA/Donaldson Collection/Getty Images



Guion S. Bluford

First African American to travel into space

U.S. Air Force Lieutenant Colonel Guion S. Bluford became the first African American to travel into space in 30th of August of 1983, on the third mission of the space shuttle *Challenger*.

Guion was born in Philadelphia (US) in 1942 and from early age showed fascination with flight and decided he wanted to design and build airplanes. In 1964 he graduated from Penn State university with a degree in aerospace engineering. In 1978, after a building a career as a pilot in the Air Force, Guion was selected to the NASA astronaut group 8.

Guion's life is an example of perseverance towards a goal and his accomplishments represent a historical step to the African American community.



Photo: NASA archives.
<https://images.nasa.gov/details-S92-48766.html>



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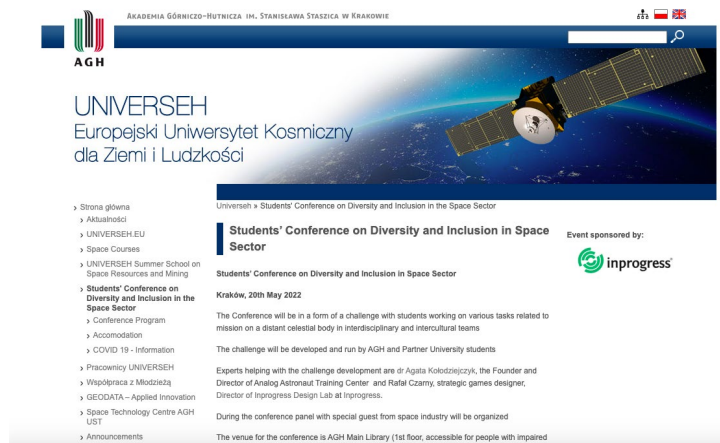
3. As a follow-up after the conference on 6th of June 2022 there was an additional online session held for students to present their projects and/or research. During the post-conference event, students represented diverse disciplines discussed the following topics:

- “Image processing and its impact on universe perception” Artur Bożek
- “The scientific consortium: an alliance of science and technology” Axelle Vanhaecke
- “Giron Space Organisation: A student initiative in Kiruna” Deepa Anantha Raman
- “The Intellectual Roots of Space Law (1950s and 1950s)” François Rulier

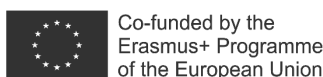
Communication and dissemination

Before the main event, a Facebook group: **Participants of Students' Conference on Diversity&Inclusion** was set up for the exchange of organizational information between students, with more than 80 people joining. The group has been sub-linked to the main event on Facebook **Conference on Diversity and Inclusion in the Space Sector** where the conference communication was provided by AGH organizers. Additionally, information about the conference was distributed on the following websites:

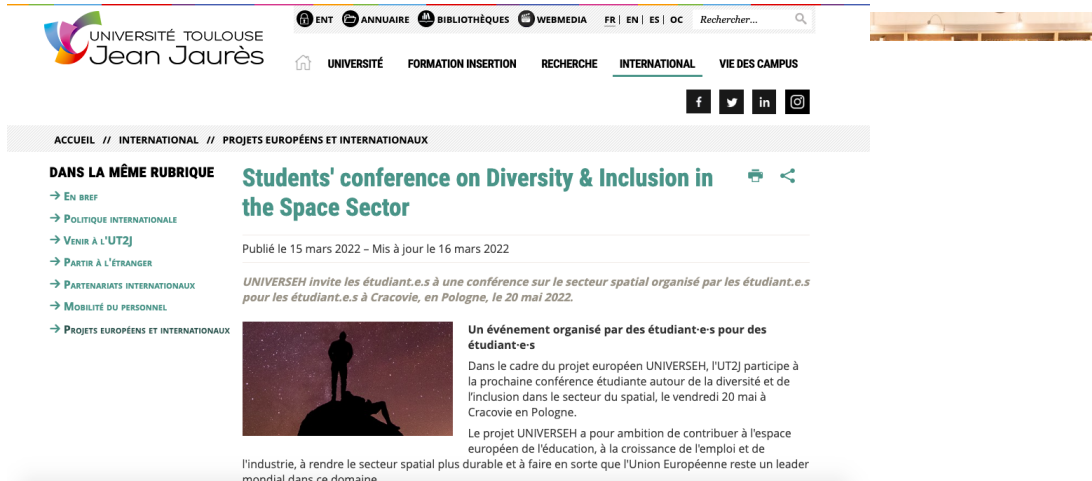
- University of Science and Technology (AGH):



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- The University Toulouse - Jean Jaurès:



UNIVERSITÉ TOULOUSE Jean Jaurès

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UNIVERSITÉ | FORMATION INSERTION | RECHERCHE | INTERNATIONAL | VIE DES CAMPUS

ACCUEIL // INTERNATIONAL // PROJETS EUROPÉENS ET INTERNATIONAUX

DANS LA MÊME RUBRIQUE

- EN BREF
- POLITIQUE INTERNATIONALE
- VENIR À L'UTJ
- PARTIR À L'ÉTRANGER
- PARTENARIATS INTERNATIONAUX
- MOBILITÉ DU PERSONNEL
- PROJETS EUROPÉENS ET INTERNATIONAUX

Students' conference on Diversity & Inclusion in the Space Sector

Publié le 15 mars 2022 – Mis à jour le 16 mars 2022

UNIVERSEH invite les étudiant.e.s à une conférence sur le secteur spatial organisé par les étudiant.e.s pour les étudiant.e.s à Cracovie, en Pologne, le 20 mai 2022.

Un événement organisé par des étudiant.e.s pour des étudiant.e.s

Dans le cadre du projet européen UNIVERSEH, l'UTJ participe à la prochaine conférence étudiante autour de la diversité et de l'inclusion dans le secteur du spatial, le vendredi 20 mai à Cracovie en Pologne.

Le projet UNIVERSEH a pour ambition de contribuer à l'espace européen de l'éducation, à la croissance de l'emploi et de l'industrie, à rendre le secteur spatial plus durable et à faire en sorte que l'Union Européenne reste un leader mondial dans ce domaine.

Photos from the conference (fot. Maria Marczyńska)



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The students' conference in numbers:

- 100 participants of the Students Conference
- 5 universities represented
- 16 international teams
- 10 special tasks designed by students for students
- 6 guest experts
- 4 winning teams
- 31 profiles of people from diverse backgrounds in the space sector

Evaluation after the Conference:

After the Conference organizers distributed the feedback form for participants. The overall evaluation rate of the event was **4.38** on a scale of 1 to 5 points. Examples of the comments from the participants highlighted the good organization and interesting subject matter of the tasks:

- *Very well organized, I really liked it 😊*
- *Only one [comment], that it was a great event and hope there will be more 😊*

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- *Finally, the last day competition challenges was really interesting, especially design and build the landing tool for the egg!*
- *The best moments of course were testing the lander and others small events which gathers us together.*

Furthermore, UNIVERSEH partners (Heinrich-Heine-Universität Düsseldorf and Université de Toulouse) also conducted evaluation surveys regarding the mobility experience of the students that participated in the conference. Examples of answers to the question of what participants found most enjoyable:

- *Having to chat with people from all around Europe, and even the world for some of them*
- *Diversity of people in their field, culture, way of thinking*
- *Meeting and talking to really awesome people from all over Europe!*
- *It was great meeting other students in different fields*
- *The prizes following the competition between the teams were very impressive and appreciated: 1 week of training at a space center, free design course..*
- *Workshops at the student conference were very interesting and fun.*

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