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University of
Zurich^{UZH}

UZH Space Hub

UZH Space Hub Newsletter



Dear UZH Space Hub Community

In this newsletter you will find news, upcoming events and space-related opportunities in the Swiss landscape and beyond.

Have a nice read,

UZH Space Hub Team

photo credit: NASA's Goddard Space Flight Center Cover image courtesy of ESO/L. Calçada

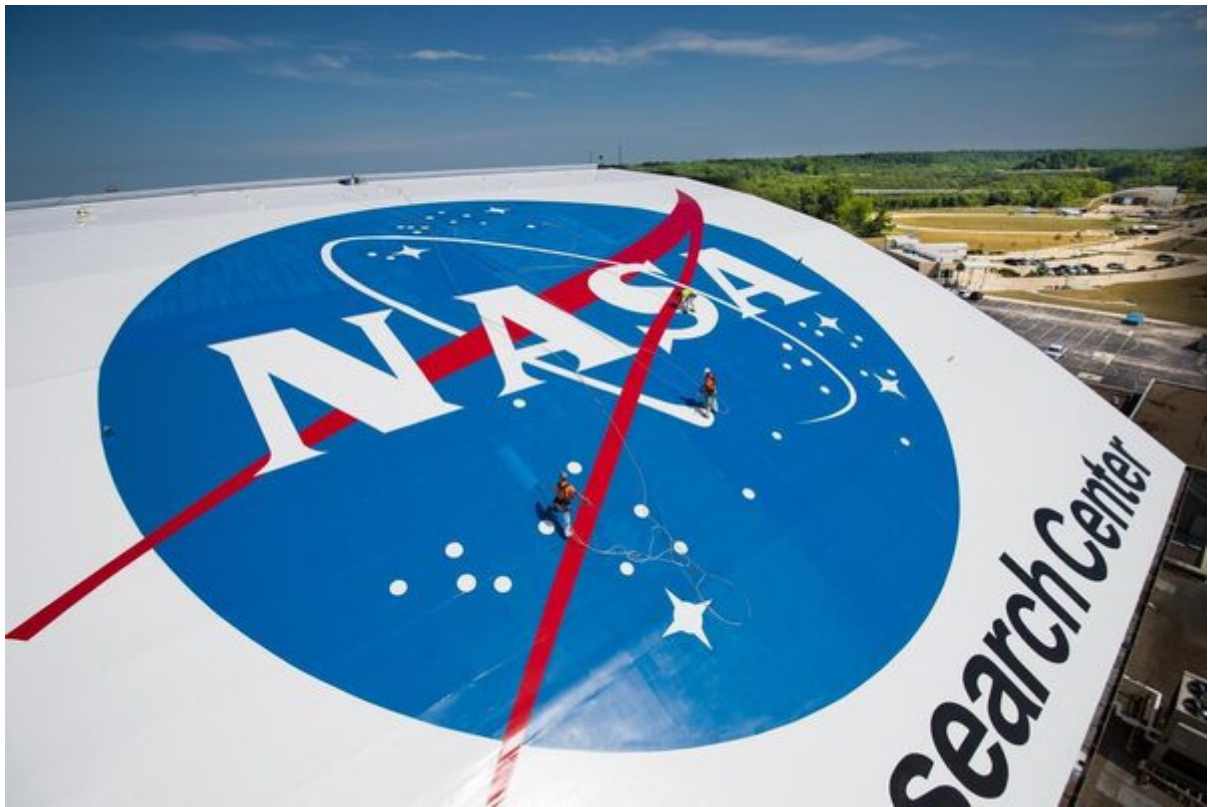
News



Highest Honor for UZH Researcher

Oliver Ullrich, Director of the UZH Space Hub and professor at the Institute of Anatomy, has been awarded the Life Sciences Award by the International Academy of Astronautics. The aerospace medicine expert is being recognized for his innovative research in space life sciences, a field he has been instrumental in establishing.

[Read more](#)



NASA and UZH sign 5-year Space Act Agreement on cooperation on biological research activities

NASA and the University of Zurich have prolonged their Space Act Agreement (2018 – 2023) on their cooperation on biological research activities for another five years (2023 – 2028).

NASA and the University of Zurich (UZH) have identified a mutual interest in cooperating on multiple biological research activities, including the terrestrial aspects of research utilizing various platforms such as ground-based micro-gravity simulators, parabolic and suborbital flight campaigns, sounding rockets, and the International Space Station (ISS). In particular, NASA and UZH desire to provide support to each other's investigations and work together to develop and propose new investigations. The investigations involve studying the control of gene expression in altered gravity.

From the University of Zurich side, the Space Act Agreement was signed by Vice President Research Elisabeth Stark and the responsible researcher Oliver Ullrich, full professor at the Institute of Anatomy and Director of the UZH Space Hub.

photo credit: NASA



Saturn as a failed gas giant planet- a new perspective on giant planet formation proposed by Ravit Helled

The formation path of giant planets is a key open question in astrophysics and planetary science.

Scientists aim to understand how giant planets like Jupiter and Saturn form, both within our Solar System and around other stars. In a recent paper, Ravit Helled proposed that giant protoplanets begin to collect hydrogen and helium (H-He) gas at a rapid rate only when they reach a mass of about 100 times that of Earth. This marks the point where they become "gas giants," planets that are mainly composed of H-He. The study implies that Saturn has never reached the stage of rapid gas accretion and that it is a "failed giant planet". The transition mass at about Saturn's mass is significantly higher than previous estimates. In addition, it is argued that the formation timescale of giant planets can be long and last for a few million years.

This new view on giant planet formation naturally explains the differences between the compositions and interiors of Jupiter and Saturn, and the characteristics of Uranus and

Neptune. It also explains the transitions in the mass-radius relations of observed giant planets around other stars and the composition of intermediate-mass exoplanets.

photo credit: Ravit Helled, UZH, generated with AI (Dall-E)

[Read more](#)

ESA supports “ScolioGravity”-Project

The project “ScolioGravity” which explores possible links between vestibular function and paraspinal muscle activity in adolescent idiopathic scoliosis, submitted by Stefan Schmid from the Berner Fachhochschule as Principal Investigator and Ramona Ritzmann from the University of Freiburg and Jaap Swanenburg from the UZH Space Hub ecosystem as Co-Investigators, has been rated as excellent by ESA and is now supported. The testing will be performed using the short-arm centrifuge in Cologone, Germany.

Congratulations from the UZH Space Hub and best wishes for a successful project with many new insights.



Florian Kehl becomes Swiss Project Manager for upcoming ESA mission ARRAKIHS

In 2022 ARRAKIHS was selected as the new fast mission in ESA's Science Programme. By imaging faint galaxies in the nearby Universe, ARRAKIHS will provide important measurements to test open questions in cosmology and image about one hundred nearby galaxies and their surroundings, using innovative twin binocular assemblies of small telescopes, to characterize the number and nature of low-mass dwarf galaxies and stellar streams in their vicinity. This survey, in visible and infrared wavelengths, will far exceed what is currently possible from ground-based telescopes.

ARRAKIHS is a 'fast', or F-class mission. The 'fast' refers to the implementation time, with a total development duration from selection to launch readiness of less than 10 years. F-class missions are ESA-led.

The mission is coordinated by the Institute of Physics of Cantabria (Spain). Florian Kehl was appointed as Swiss Project Manager and serves as co-leader in the overall project management for this space telescope.

The Space Hub congratulates Florian Kehl and wishes him success for this responsible task!



UZH Space Hub participated in the Commercial Space Days 2023

From September 11 to September 12 the UZH Space Hub was present with its booth at the first Commercial Space Days fair in Switzerland and with a talk by Claudia Rössli regarding space-related courses at the University of Zurich and Oliver Ullrich as panel participant in the academia part. The Space Hub offered its ecosystem members a platform on its booth. Alex Barden from the Group Scaramuzza, Florian Kehl from the Group Moore and Manuel Gerold from askEarth, a startup from the Space Hub ecosystem, profited from this opportunity to meet representatives from the Space sector.

The fair organized by the Swiss Aerospace Cluster and held in Lucerne, Switzerland, attracted over 400 participants from industry, academia and authority-related institutions.

photo credit: Regina Sablotny

Opportunities

SciSpaceE Calls for “LEO” and “Lunar Gateway and Moon Surface” Facility

Definition Team Membership

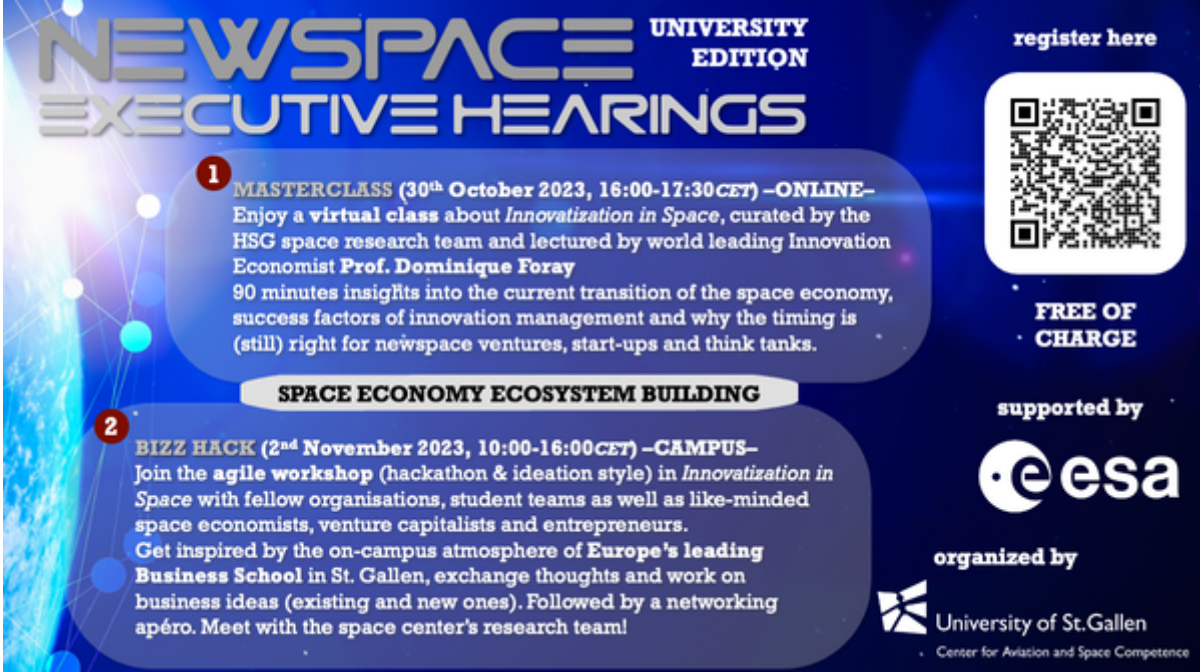
ESA is looking for external scientists as new members for two types of Facility Definition Teams (FDTs). The first type is built to support the definition of science activities for the post-ISS era with a focus on Low Earth Orbit.

The second type of FDT supports the definition of exploration activities for the Lunar Gateway and the Moon surface.

FDTs will be composed of external scientists and ESA technical experts from different disciplines. Apply until October 8th!

[More information for the call related to Low Earth Orbit](#)

[More information for call related to Lunar Gateway and the Moon surface](#)




NEWSPACE UNIVERSITY EDITION EXECUTIVE HEARINGS

1 MASTERCLASS (30th October 2023, 16:00-17:30 CET) –ONLINE–
Enjoy a **virtual class** about *Innovatization in Space*, curated by the HSG space research team and lectured by world leading Innovation Economist **Prof. Dominique Foray**
90 minutes insights into the current transition of the space economy, success factors of innovation management and why the timing is (still) right for newspace ventures, start-ups and think tanks.

SPACE ECONOMY ECOSYSTEM BUILDING


2 BIZZ HACK (2nd November 2023, 10:00-16:00 CET) –CAMPUS–
Join the **agile workshop** (hackathon & ideation style) in *Innovatization in Space* with fellow organisations, student teams as well as like-minded space economists, venture capitalists and entrepreneurs.
Get inspired by the on-campus atmosphere of **Europe's leading Business School** in St. Gallen, exchange thoughts and work on business ideas (existing and new ones). Followed by a networking apéro. Meet with the space center's research team!

register here




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University of St. Gallen
Center for Aviation and Space Competence

NewSpace: Free 90-minutes Masterclass and 1-day Business Hack

The Space Center at University of St. Gallen is executing a mandate by ESA, which involves free complimentary sessions with start-up and academic ecosystems (student teams). The aim is to increase the ecosystem/networking spirits of Space Economy stakeholders, including students, start-ups and entrepreneurs. All Space-related and Space-interested groups are invited to participate in the free masterclass.

Monday, October 30th , 16.00 - 17.30 hrs: online 90-minutes MASTERCLASS with Prof. Dominique Foray (Innovation Economist with Space research)

Thursdays, November 2nd , 10.00 - 16.00 hrs: onsite (HSG-Campus) 1-day BIZZ HACK (innovation workshop, hackathon style)

Participants can register for the MASTERCLASS and BIZZ HACK or for the

MASTERCLASS only. Attending both generates the biggest value for the students, as they learn from a leading Innovation Economist, followed by a carefully selected/curated innovation workshop by the Space research team of the University of St. Gallen.

Free registration

«Are you a start-up incorporated in Switzerland, less than 5 years old and have a space connection, then apply to be part of the next ESA BIC CH cohort.»

APPLICATION DEADLINE
October 31st 2023, 11.59 p.m. (CET)
Apply here!
* Block November 22nd for jury session *

Please send in the 2-pager screening asap

Financial Support
Technical Support
Business Support

Network Support
ESA Network
Community Building

ETH zürich

ESA BIC support for space-related start-ups, apply until October 31st!

ESA BIC (Business Incubation Centre) Switzerland offers an extensive support package to entrepreneurs with innovative ideas and some space connection to develop their business in space or on earth. Facilitation covers technical, business, and financial support plus networking and community building. Eligible start-ups are incorporated in Switzerland, less than 5 years old and have a connection to space.

Application deadline for the next cohort of supported start-ups is October 31st 2023!

[Apply here](#)

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