



Swiss Habitability and Origin of Life

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**UNIVERSITÄT
BERN**

CSH
CENTER FOR SPACE AND HABIT

SHOL DAYS 24

Swiss Habitability and Origin of Life Days

The Center for Space and Habitability (CSH) of the University of Bern, the Centre for the Origin and Prevalence of Life (COPL) of the ETH Zürich, and the Life in the Universe Centre (LUC/CVU) of the University of Geneva organize the first 'Swiss Habitability and Origin of Life' days, on 19th and 20th of March 2024 in Bern. The goal of this two-day meeting is for the researchers of the three centers, and more generally Switzerland, to meet and discuss their research in the domain of habitability and origin of life. We expect similar meetings to be organized yearly each spring, with the aim to build a Swiss community in the field of habitability and origin of life.

The SHOL 24 will take place on Tuesday and Wednesday, March 19th and 20th 2024, in Room 205 at Hallerstrasse 6, 3012 Bern.

1. Program

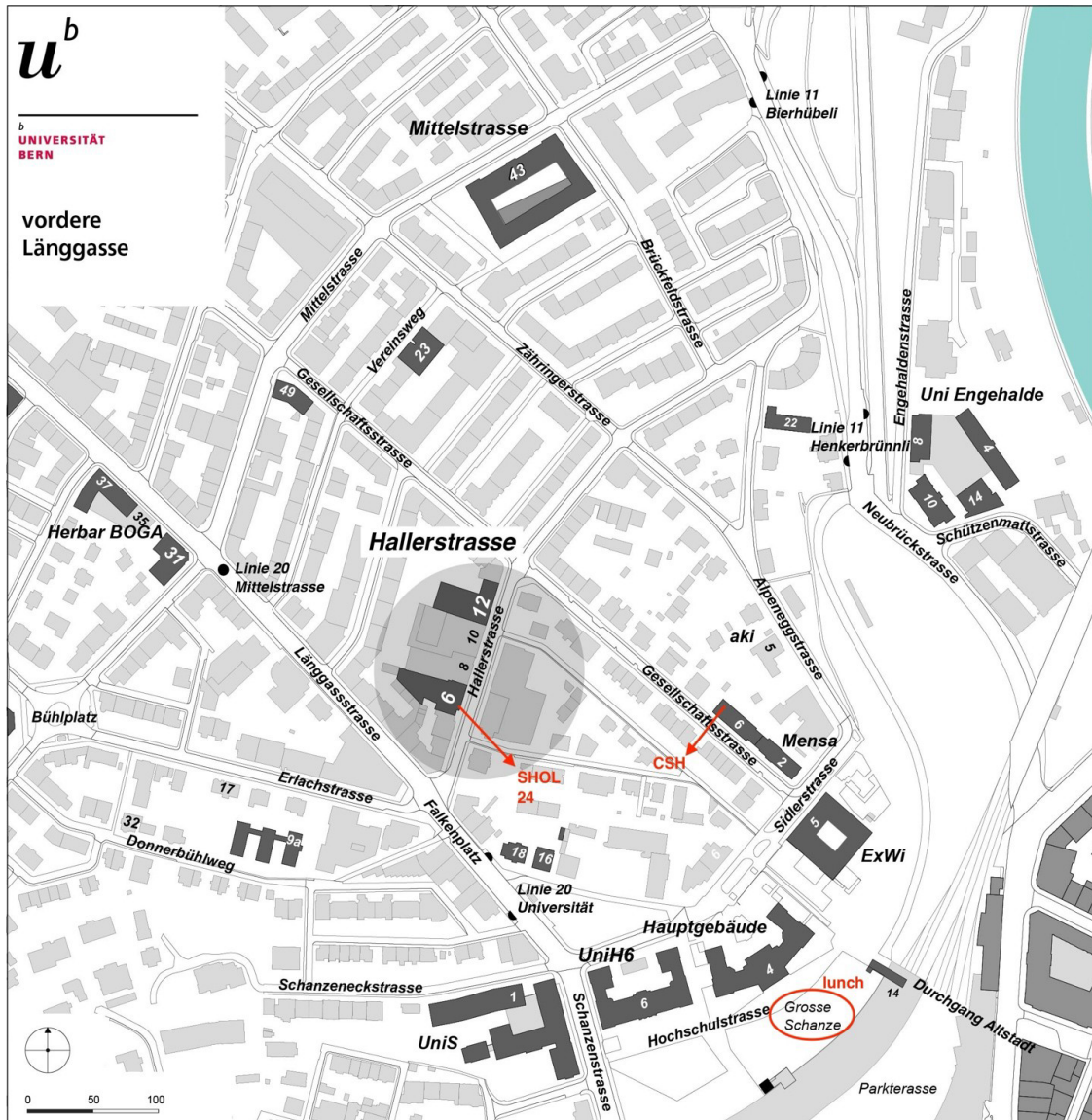
Tuesday, March 19th, 2024

Time	Speaker	Titel of talk
10:00 - 10:30	Coffee / tea	
10:30 – 10:45	Welcome and purpose of the meeting	
10:45 - 12:10	Session 1 - cradle of life: astrochemistry, planet origin, habitability	
10:45	Review: Emeline Bolmont	Habitability of exoplanets.
	Talk 1. Marie Azevedo	Multispectral imaging to explore Mars climate evolution and habitability.
11:45	Talk 2. Laure Moinat	Signature of Climate Dynamics using Complex Networks.
12:10 - 14:00	Lunch break - Grosse Schanze	
14:00 - 15:15	Session 1 - continued	
14:00	Talk 4. Janina Hansen - presented by Daniel Angerhausen/Derek Vance	Detecting population-level CO2 trends in Habitable Zone planet atmospheres with LIFE-like observations.
14:25	Talk 5: Marine Leyvraz	Exoclimate Modelling: Investigating the Effect of Orbital Dynamics.
14:50	Talk 6: Maria Drozdovskaya	Chemical Complexity in Early Phases of Star Formation.
15:15 - 16:15	Session 2 - the early history of the Earth (climate, geology, plate tectonic, etc...)	
15:15	Review: Dr Christian V�erard	Introduction to the early history of the Earth.
15:50	Talk 1. Dan Bower	Diversity of the early atmospheres of rocky planets
16:15 - 16:45	Coffee Break	
16:45 - 17:35	Session 2 - continued	
	Talk 2: Maria Ovtcharova	U-Pb zircon ID-TIMS geochronology of the terminal Ediacaran.
	Talk 3: Bhagyashree Mishra	Modern Microbialites from the hydrothermal Lake Specchio di Venere.
17:35 - 18:30	Poster Session	
19:30	Dinner	

Wednesday, March 20th, 2024

Time	Speaker	Titel of talk
9:00 - 10:50	Session 3 - Possible origins of life possible origins of life (first forms of life, chemistry and bio-geo-chemistry point of view)	
09:00	Review: Dr. Jason Greenwald	Amyloids and the origin of molecular complexity.
09:35	Talk 1: Francesca Bertolino	The Role of Pyroclastic Rocks from The Origin of Life to the Search for Extraterrestrial Life.
10:00	Talk 2: Reem Ajuhaimi	Environments prevalent on early Earth, such as hydrothermal vents and tidal pools rich in clay minerals, could have influenced the formation of chemical ester bonds, fundamental building blocks crucial for the emergence of life.
10:25	Talk 3: David Rhyner	From simple monomeric units to complex polymeric structure.
10:50 - 11:20	Coffee Break	
11:20 - 12:20	Session 4 - Earth/Life co-evolution and bio-markers	
	Review: Dr. Cara Magnobosco	Uncovering life and planetary co-evolution through the genomic record.
11:55	Talk 1: Asena Kuzucan	Exploring Exoplanet Habitability: Climate Modeling and Microbial Adaptation.
12:20 - 14:00	Lunch Break - Grosse Schanze	
14:00 - 15:50	Session 5 - Detection of Life	
	Review: Andreas Riedo	Challenges in finding life in our Solar System – from Signatures to Instrumentation?
14:35	Talk 1: Mathilde Houelle - presented by Emeline Bolmont	Life detection in transiting planets.
15:00	Talk 2: Andreas Riedo	Laser-based mass spectrometry for in-situ organic molecules detection.
15:25	Talk 3: Daniel Angerhausen	What if we do not find anything?
15:50 - 16:30	Coffee Break	
16:30 - 17:10	Philosophy and impact on society	
	Review: Prof. Claus Beisbart	
17:10	Time for discussing future projects, etc. room available for discussion until end ~18:00	

2. Location of the venue: University of Bern, Room 205, Hallerstrasse 6, 3012 Bern



3. Lunch

Tables for the daily lunch has been reserved for you between 12:30 to 14:00 at:

Restaurant Grosse Schanze, Parkterrasse 10, 3012 Bern

Lunch menu and a big variety of sald and warm food buffet are at your choice and expenses.

4. Dinner

The dinner will be held at 19:30 on Tuesday, March 19th at the restaurant:

Kornhauskeller Restaurant & Bar, Kornhausplatz 18, 3011 Bern ([google map link](#))

If you wish to participate to the dinner, please do not forget to bring 40 CHF in cash (to be collected the 19/03).