

Conference

Towards a Moon Village? Constructing Sustainable Buildings and Society on Earth and in Space

March 18th and 19th, 2024

Schader-Forum, Goethestraße 2, 64285 Darmstadt, Germany

Buildings are a key cause of climate change through their energy and emissions impact and must therefore be part of the solution. At the same time, buildings must satisfy increasing demands emerging from the integration of smart technologies, climate change adaptation all the way to the arguably extreme demands of constructing and maintaining buildings in non-terrestrial environments. This workshop will bring together two communities and strands of research and practice, which have both been working on the sustainability of buildings, both on Earth, but also with a view to constructing buildings in other environments. With a view to mutual learning and exchange, it focuses on technologies as well as policies and solutions emerging from the European level, but also from the EU Member states and sub-national centers of governance. The workshop builds on the achievements of the standing research group on European space policy and on the UACES Research Network 'The Role of Europe in Global Challenges: Climate Change and Sustainable Development'.

The conference will focus on the following topics and questions:

- Buildings, Space and Sustainability
- Sustainable construction technologies for Earth and space
- Building sustainable societal concepts on Earth and for space
- European Space Policies in general
- European sustainability and buildings policies in general
- How to handle limited resources (compared to Earth), for example water or water circulation.
- Ways to recycle or re-use (considering construction waste

and embodied energy in the construction process)

- Dealing with space junk compared to rubble on Earth.
- The role of policy requirements and economic incentives (e.g., waste disposal in space)
- Who is able to build in space? (considering wealth, imperialism, mining rights on the moon...)
- More fundamentally: Should we even consider constructing in outer space?

The conference is a cooperation between ESSCA's EU*Asia Institute, the Institute for Housing and Environment (IWU) and the Schader Foundation. It will take place in the context of the *16th ESSCA Space Policy Workshop* on March 18th and 19th 2024 in Darmstadt, Germany. The conference also includes a Roundtable at the *European Space Operations Centre (ESOC)*.

For more information visit www.schader-stiftung.de/sustainable-spacebuilding

With the kind support of



Programme

Day 1 - Monday the 18th of March, 2024

- 9.30 Arrival
- 10.00 Welcome
Alexander Gemeinhardt, Schader-Foundation, Darmstadt
Prof. Dr. Thomas Hoerber, ESSCA's EU*Asia Institute, Angers
Dr. Monika Meyer, Institute for Housing and Environment, Darmstadt
- 10.15 **Session #1: Space Economy**
Prof. Dr. Markus Landgraf, ESA - European Space Agency, Darmstadt
Jordi Sandalinas, University Pompeu Fabra, Barcelona
Dr. Pieter Van Nes, ESSCA's EU*Asia Institute, Angers
Philipp Kürten, University of Vienna

Chair: *Luise Spieker*, Schader-Foundation
- 12.15 Lunch Break
- 13.00 **Session #2: Sustainable Buildings and Construction in Space**
Sung Paek, City University of London
Britta Stein, Institute for Housing and Environment, Darmstadt
Dr. Rory Tews, Freelance
Frank Hermanns, Smart Building Innovation Foundation, Berlin

Chair: *Dr. Jonas Schönefeld*, Institute for Housing and Environment
- 15.00 Break
- 15.15 **Panel Discussion "Sustainable Building"**
Dr. Pieter Van Nes, ESSCA's EU*Asia Institute, Angers
Dr. Jonas Schönefeld, Institute for Housing and Environment, Darmstadt
Katharina Rauh, prosa Architektur + Stadtplanung, Darmstadt

Moderator: *Prof. Dr. Ursula Stein*, Büro Stein Stadt- und Regionalplanung, Frankfurt am Main
- 16.15 Break
- 18.00 Conference Dinner at **Restaurant Sitte**

Day 2 - Tuesday the 19th of March, 2024

- 9.30 Welcome
- 9.35 **Session #3: Space Policies and Governance**
Monika Molnar, University of Basel
Dr. Gerard Conway & Prof. Peter Jelfs, Brunel University, London
Prof. Dr. Bruno Reynaud de Sousa, University of Minho, Braga
Katja Grünfeld, University of Cologne
Dr. Lorna Ryan, City, University of London
- Chair: *Prof. Dr. Thomas Hoerber*, ESSCA's EU*Asia Institute
- 12.00 Lunch Break
- 12.30 **Session #4: Conflict and Cooperation**
Lise Dubois, University Jean Moulin Lyon III
Andrew Thomas, ESSCA's EU*Asia Institute, Angers
- Chair: *Prof. Dr. Bruno Reynaud de Sousa*, University of Minho
- 13.30 Joint Conclusion
- 14.00 Joint Location Change to ESOC
- 15.00 Round Table at ESOC: **Europe's role in space construction**
Prof. Dr. Thomas Hoerber, ESSCA's EU*Asia Institute, Angers
Simon Plum, ESA/ESOC - European Space Agency, Darmstadt
Dr. Andreas Kanstein, cesah GmbH Centrum für Satellitennavigation Hessen
Dr. Melanie Heil, ESA/ESOC - European Space Agency, Darmstadt
- Moderator: *Thomas Ormston*, ESA/ESOC - European Space Agency, Darmstadt
- 16.00 Guided Tour at ESOC
- 17.00 End of the Conference