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Zürich <sup>UZH</sup>

**ETH** zürich

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Zürcher Hochschule der Künste  
Zurich University of the Arts

# STS-CH CONFERENCE 2025

Holding things together?  
Change, continuity, critique

**SEPT 10 – 12, 2025**

University of Zurich, ETH, ZHdK



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# Holding things together? Change, continuity, critique

Welcome to Zurich! We are excited about this diverse programme and all the participants who have made this possible and helped to hold this together! We've curated the programme through a series of thematic strands. Of course, any cuts are necessarily imperfect. Rather than strict categories, we hope that these may act as orienting threads to guide you through the varied programme. Many panels cut across themes, and we expect conversations and inspiration to do so, too.

We hope you enjoy the conference.

## **Organisation committee (alphabetical order):**

Margo Boenig-Liptsin, Monika Dommann, Gabriel Dorthé, Kathrin Eitel, Karmen Franinovic, Leila Girschweiler, Nadja Kempter, Sara Kinell, Sarah Helena Keller, Kiah Lian Rutz, Christopher Salter, Philippe Sormani, Bianca Vienni-Baptista, Luke Stalley

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In response to multiple crises and uncertain futures, nostalgic factions of contemporary society sometimes lament lost togetherness and a lack of shared knowledge about what happens, what should be done, and how to make sense of it all. Political upheavals, economic inequalities, ecological devastations, and climate threats indeed do seem to call for restored unity and a renewed pact of knowledge in society governed by relevance. Desirable futures are then imagined through collective efforts and revived interdisciplinary perspectives, including science and technology studies (STS). Through collaborative programs, public engagement, action research, transdisciplinary ventures, and the idea that “things could be otherwise,” STS as a multifaceted research field indeed has come to be built around the hope for a more just and inclusive world.

As its title question indicates, the STS-CH 2025 conference opens up a space to reflect on the field's normative commitments and empirical inquiries. Does the intellectual and political project of a patient constructivist analysis still fit with a state of the world in which justice and emancipation feel like vague dreams? And, if not, what else does STS have in store? Is there something like a “common good” that STS should advocate? Conversely, and 20 years after a resounding paper by Bruno Latour, in which he asked if “critique had run out of steam”, is STS able and willing to account for conflicting situations between irreconcilable worldviews? What is the status of critique in today's world? How do different research cultures within STS deal with critique? What can we learn from STS rooted in North America or Asia?

The constitutive relationships between knowledge cultures, technical practices, and forms of collective life have always been essential to STS. Collaborative forms of action, including transdisciplinarity, collaboration and public participation, all of which reinforce connections and sustain cohesion in both epistemic and political pursuits, have been studied extensively and practically engaged in. This conference welcomes contributions that prolong these canonical endeavors or imagine new ventures, while inviting reflexive perspectives. Does the emphasis on how things and people “hold together” properly account for contemporary conflicts, tensions, troubles, and uncertainties? Does the indispensable role of togetherness and hope in navigating tumultuous times need to be reframed and revised? And if so, how? Can the notion of a “common good” be dispensed with? If contemporary controversies are deemed to generate irreconcilable positions, what could be the contribution of STS to the deliberation and development of a collective journey toward a more cohesive and resilient world?

The STS-CH 2025 conference aims to **approach togetherness from different perspectives that inquire into processes and practices of change, continuity, critique and potentially also the deliberate destruction of existing structures, social or sociotechnical**. The goal is not to reach consensus on potential futures but to coproduce insights and support performative voices that imagine other liveable futures, connecting past and present experiences.

The conference will explore togetherness, transformation, inheritance and collectivity as means or devices, as well as discourses and practices, to navigate and recompose current societal worlds. We invite rethinking and reframing the following questions and lines of inquiry:

- How does the emphasis on things and people “holding together” relate to contemporary conflicts, tensions, troubles, and uncertainties?
- Does the indispensable role of togetherness and hope in navigating tumultuous times need to be reframed and revised? And if so, how?
- If contemporary controversies are deemed to foster irreconcilable positions, what could be the contribution of STS to the deliberation and development of a collective journey toward a more resilient world?
- What notion(s) of “common good” can or should STS contribute to articulate? What place do critical interventions have in the process? How might a renewed STS impetus – critical and constructive – look like?
- How can STS be developed and used, if not repurposed, in “inventive ways” so that its critique will last? How do “care” and “craft” fit into the picture?
- Did Latour overstate his case, conflating the public performance of polemic positions in mainstream media with the supposedly irreconcilable character of mutually exclusive worldviews per se?
- “Normative commitments,” “empirical basis,” “sociotechnical historicity” – if these are key concerns in and across current STS, how do they relate to each other, in and as any actual case? And what might be next?

## Keynotes

We are pleased to announce a series of thought-provoking keynote events as part of the conference program. Join us for conversations at the intersection of science, technology, and society.


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### Brit Ross Winthereik (DTU Copenhagen)


#### Redressing the Digital Leviathan with Science and Technology Studies

**Welcome:** Kathrin Eitel (UZH) Margo Boenig-Liptsin (ETH), Philippe Sormani (ZHdK)

**Moderation:** Kathrin Eitel (UZH)

 Wednesday, September 10

 16:00 – 17:30

 University of Zurich (UZH), Room KOL-G-201

Address: Rämistrasse 71, Zurich


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### Hannah Star Rogers (University of Copenhagen)

#### What holds together? The role of the arts in the future of STS

**Welcome:** Chris Salter (ZHdK)

**Discussant:** Philippe Sormani (ZHdK)

 Thursday, September 11

 17:00 – 18:00

 Museum für Gestaltung, Vortragssaal (1st floor)

Address: Ausstellungsstrasse 60, Zurich

Tram 4, stop: Museum für Gestaltung

[More info on the venue](#)


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### Roundtable Keynote: The Future of STS in Switzerland

#### The Future of STS in Switzerland

A conversation among leading scholars shaping the landscape of STS in and beyond Switzerland.

 Friday, September 12

 09:30 – 11:00

 ETH Zurich, Room HG E 5

Address: Rämistrasse 101, Zurich

**Speakers:**

- **Martina Merz** (University of Klagenfurt, Austria)
- **Regula Burri** (HCU Hamburg, Germany)
- **Anna Jobin** (University of Fribourg, Switzerland)
- **Francesco Panese** (University of Lausanne, Switzerland)
- **Monika Dommann** (University of Zurich, Switzerland)
- **Nicolas Baya Laffite** (University of Geneva, Switzerland)

**Moderation:** Margo Boenig-Liptsin

STS-CH CONFERENCE 2025  
HOLDING THINGS TOGETHER? CHANGE, CONTINUITY, CRITIQUE

# CONFERENCE SPEAKERS

SEPT 10 – 12, 2025  
@UNIVERSITY OF ZURICH, ETH, ZHDK



**BRIT ROSS  
WINTHEREIK**  
DTU Copenhagen



**HANNAH  
ROGERS**  
University of Copenhagen

PLENARY ROUNDTABLE “THE FUTURE OF STS IN SWITZERLAND”



**MONIKA  
DOMMANN**  
University of  
Zurich



**MARTINA  
MERZ**  
University of  
Klagenfurt



**ANNA  
JOBIN**  
University of  
Fribourg



**FRANCESCO  
PANESE**  
University of  
Lausanne



**REGULA  
BURRI**  
HCU Hamburg



**NICOLAS  
BAYA  
LAFFITE**  
University of  
Geneva

# Schedule

## STS-CH Conference 2025

Holding things together? Sept 10 – 12, 2025  
Change, continuity, critique @University of Zurich, ETH, ZHdK

## Programme Overview

### Wednesday 10 Sep

Registration is open from 11.00 **KOL-G-201 (Aula), Rämistrasse 71**

12.00 — 13.30

| Room   | KO2-F-153   | KO2-F-174   | KO2-F-175   | KOL-G-220                 | KOL-G-222 |
|--|---|---|---|---------------------------|-----------|
| KOL-F-123  |   |   |   |                           |           |
| 3f Reproductive Uncertainties and Imagined Futures in the Anthropocene (1) | 3h Suspended for Good? The SSK's Critical Programme Resumed | 3j What Holds Startups Together? Exploring Infrastructures, Places, and Knowledge | 3e Re/symmetrizing Care: Thinking Technical and Natural Maintenance in the Anthropocene (1) | 1a Reading Texts Together |           |

13.30 — 14.00 Coffee Break in front of **KOL-G-201 (Aula)** and **KO2-F-174**

14.00 — 15.30

| Room   | KO2-F-153   | KO2-F-174  | KO2-F-175   | KOL-G-220   | KOL-G-222  |
|--|---|--|---|---|--|
| KOL-F-123  |   |  |   |   |  |
| 3j Bruno Latour: Opening Black Boxes in a Decolonial World | 3k Out of the blue? Discontinuities and dependencies in the development of the low-carbon hydrogen sector | 3n Infrastructure as Spectacle: Planetary Configurations of Manifestation and Visibility (1) | 3e Re/symmetrizing Care: Thinking Technical and Natural Maintenance in the Anthropocene (2) | 3b STS and international security: Towards convergence? (1) | 3b Supporting capacity for critique by teaching Science-Technology-Society (S-T-S) in STEM fields? |

15.30 — 16.00 Coffee Break in front of **KOL-G-201 (Aula)** and **KO2-F-174**

16.00 — 17.30

| Room      | <b>Welcome remarks &amp; Keynote</b><br><i>Redressing the Digital Leviathan with Science and Technology Studies</i><br><b>Britt Ross Winthereik</b> |
|-----------|---|
| KOL-G-201 |   |

17.30 – 20.00 Apéro **Obero Mensa**

### Thursday 11 Sep

Registration is open from 09.00 **Foyer HG E-Süd, Rämistrasse 101**

09.30 — 11.00

| Room  |   |   |  |  |  |  |   |  |
|---|---|---|--|--|--|--|---|--|
| HG D 3.1  | HG D 3.3  | HG D 5.1  | HG E 33.1                              | HG E 33.3  | HG F 26.1  | HG F 26.3  | HG F 26.5   |  |
| 3b STS and International security: Towards convergence? (2) | 3g Microbial STS and Moving Beyond Critique: How Things Hold for Future Studies | 4c Reflecting Controversies: Epistemologies of studying blockchain and other politically charged technologies (1) | 3i Thinking through incompleteness (1) | 3o Holding the Disparate Together: Exploring the Connective Tissue of Built Environments (1) | 1d Back to Basics: Returning to Practice, Probing the Medium, Remixing the Social! (1) | 3n Infrastructure as Spectacle: Planetary Configurations of Manifestation and Visibility (2) | 5d Intersections in inter- and transdisciplinary research: mapping cultures, practices and policies |  |

11.00 — 11.30 Coffee Break **Foyer HG E-Süd**

11.30 – 13.00

| Room  | HG D 3.1 | HG D 3.3 | HG D 5.1 | HG E 33.1                              | HG E 33.3  | HG F 26.1   | HG F 26.3  | HG F 26.5   |
|---|----------|----------|----------|--|--|---|--|---|
|   |          |          |          |  |  |   |  |   |
| 3e Liberal Objects - What Remains of Them, & How They Matter (or Not) Now |          |          |          | 3i Thinking through incompleteness (2) | 3o Holding the Disparate Together: Exploring the Connective Tissue of Built Environments (2) | 1d Back to Basics: Returning to Practice, Probing the Medium, Remixing the Social (2) | 3n Infrastructure as Spectacle: Planetary Configurations of Manifestation and Visibility (3) | 4b Navigating Togetherness: Stakeholder Engagement and Reflexive Practices in Technology Assessment |

13.00 — 14.30 Lunch Break & STS-CH General Assembly **HG E 5**

14.30 – 16.00

| Room     |                       |  |  |  |                                    |   |   |  |
|----------|-----------------------|--|--|--|------------------------------------|---|---|--|
| HG D 3.1 | HG D 3.3              | HG D 5.1   | HG E 33.1  | HG E 33.3  | HG F 26.1                          | HG F 26.3   | HG F 26.5   |  |
|          | 5e Generative methods | 2a Holding Things together at UZH and ETH: The Doctoral Program History of Knowledge | 1b Re-enchanting Wounded Worlds: Fermentation, Decay, and Interspecies Grief in Post-Violated Landscapes (1) | 3a Has critique of algorithms run out of steam? Social studies of AI, machine learning, and big data (1) | 3m Subjects that cross disciplines | 1e Design crossing sciences for health: Perspectives on more-than-human relations and careful practices | 5b Critiquing Radicalization: a socio-technical perspective on political events |  |

16.00 — 17.00 Venue Change **Museum für Gestaltung, Ausstellungsstrasse 60**

17.00 — 18.00

| Room                    | <b>Keynote</b><br><i>What holds together? The role of the arts in the future of STS</i><br><b>Hannah Star Rogers</b> |
|-------------------------|--|
| Vortragssaal, 1st floor |  |

18.00 Apéro & Party **ZHdK, Toni-Areal, 5.K12, Förlibuckstrasse 109**

Wed 10 Sep

UZH KOL BUILDING

Thu 11 Sep

ETH HG & ZHdK

## Friday 12 Sep

Registration is open from 09.00 **HG EO Nord, Rämistrasse 101**

09.30 — 11.00

**Room**  
**HG E 5 – Hörsaal** **Future of STS in Switzerland Roundtable**  
with Monika Dommann, Martina Merz, Anna Jobin, Francesco Panese,  
Regula Burri & Nicolas Baya Laffite, moderated by Margo Boenig-Lipstsin

11.00 — 11.30 Coffee Break Foyer **HG EO Nord**

11.30 — 13.00

| Room     | HG D 5.1 | HG F 26.5   | HG F 26.1   | HG F 26.3   | HG E 33.3   |
|----------|----------|---|---|---|---|
| HG D 3.3 |          | <b>3f</b> Holding Experts Together? Rethinking Knowledge Integration through Interexpertise (1) | <b>3a</b> Making Things Matter: Attending to the Qualities that Hold Care and its Worlds Together (1) | <b>3a</b> Has critique of algorithms run out of steam? Social studies of AI, machine learning, and big data (2) | <b>3r</b> Ecological governance of digitalisation and struggles over a public problem (1) |

13.00 — 14.00 Lunch Break

14.00 — 15.30

| Room     | HG D 5.1  | HG F 26.5  | HG F 26.1   | HG F 26.3   | HG E 33.3   |
|----------|---|--|---|---|---|
| HG D 3.3 | <b>3p</b> How myths and stories are holding things together in times of trouble (1) | <b>3d</b> Attuning to Watery Worlds: Perception, Relationality and Care in More-Than-Human Ecologies | <b>3f</b> Holding Experts Together? Rethinking Knowledge Integration through Interexpertise (2) | <b>3a</b> Has critique of algorithms run out of steam? Social studies of AI, machine learning, and big data (3) | <b>3r</b> Ecological governance of digitalisation and struggles over a public problem (2) |

15.30 — 16.00 Coffee Break Foyer **HG EO Nord**

16.00 — 17.30

| Room     | HG D 5.1  | HG F 26.5  | HG F 26.1   | HG F 26.3  | HG E 33.3   |
|----------|---|--|---|--|---|
| HG D 3.3 | <b>3p</b> How myths and stories are holding things together in times of trouble (2) | <b>1c</b> Erasure of Shared Sacred Landscapes and Remembrance of Disrupted Futures | <b>4a</b> The Rise of the Broconomy: Techno-Optimism, Masculinity, and the Politics of Progress | <b>3q</b> Hybridising environmentally: re/ configuring environmental infrastructures and their imaginaries | <b>5a</b> Crafting Connections: a Workshop to Prototype Bridges between Research and Practice |

# Overview of Panels

Conference events are organized around thematic groups:

Revisiting the Basics; Holding Things, Bodies and Worlds Together; Making and Doing Environments and Infrastructures; Holding Together Disciplines and Differences; New Technologies, Critique and a Changing World; Speculating, Imagining and Knowing Otherwise; Living with, in and through Vital Spaces & Relations; Holding Citizens and States Together.

The panel descriptions are presented by their thematic groups. See the schedule above for the timing of each event.

## Experimental formats

- **1a:** [Reading Texts Together](#) (Convenors: Sara Kinell, Margarita Boenig-Liptsin)
- **1b:** [Re-enchanting Wounded Worlds: Fermentation, Decay, and Interspecies Grief in Post-Violated Landscapes](#) (Convenors: Monika Gabriela Dorniak)
- **1c:** [Erasure of Shared Sacred Landscapes and Remembrance of Disrupted Futures](#) (Convenor: Safet HadžiMuhamedović)
- **1d:** [Back to Basics: Returning to Practice, Probing the Medium, Remixing the Social](#) (Convenors: Philippe Sormani, Sophia Prinz, Christopher L. Salter)
- **1e:** [Design crossing sciences for health: Perspectives on more-than-human relations and care-full practices](#) (Convenor: Aylin Yildirim Tschoepe)

## Closed panels

- **2a:** [Holding Things together at UZH and ETH: The Doctoral Program History of Knowledge](#) (Convenor: Leila V. Girschweiler)

## Open panels

- **3a:** [Has critique of algorithms run out of steam? Social studies of AI, machine learning, and big data in questions](#) (Convenors: Florian Jatón, Marc Lenglet)
- **3b:** [STS and international security: Towards convergence?](#) (Convenors: Matthias Leese, Jens Hälterlein)
- **3c:** [Liberal Objects - What Remains of Them, & How They Matter](#) (or Not) Now (Convenors: James Hay, Yewon Hong)
- **3d:** [Attuning to Watery Worlds: Perception, Relationality and Care in More-Than-Human Ecologies](#) (Convenor: Anthea Oestreicher)
- **3e:** [Re/symmetrizing Care: Thinking Technical and Natural Maintenance in the Anthropocene](#) (Convenors: Jérôme Denis, Alain Müller, David Pontille)
- **3f:** [Holding Experts Together? Rethinking Knowledge Integration through Interexpertise](#) (Convenors: Jongheon Kim, Karine Gauche)
- **3g:** [Microbial STS and Moving Beyond Critique: How Things Hold for Future Studies](#) (Convenors: Maya Hey, Jose A. Cañada)
- **3h:** [Suspended for Good? The SSK's Critical Programme Resumed](#) (Convenors: Jan Marsalek, Zdenek Konopasek)

- **3i:** [What Holds Startups Together? Exploring Infrastructures, Places, and Knowledge](#) (Convenors: Loïc Riom, Tanja Schneider)
- **3j:** [Bruno Latour: Opening Black Boxes in a Decolonial World](#) (Convenors: Catalina Jaramillo)
- **3k:** [Out of the blue? \(Dis\)continuities and dependencies in the development of the low-carbon hydrogen sector](#) (Convenors: Maël Goumri, Hugo Vosila)
- **3l:** [Thinking through incompleteness](#) (Convenors: Sabrina Stallone, Nitin Bathla, Jon Schubert)
- **3m:** [Subjects that cross disciplines](#) (Convenors: Jonas Köppel, Felipe Fernández)
- **3n:** [Infrastructure as Spectacle: Planetary Configurations of Manifestation and Visibility](#) (Convenors: Julio Paulos, Kathrin Eitel)
- **3o:** [Holding the Disparate Together: Exploring the Connective Tissue of Built Environments](#) (Convenor: Laurin Baumgardt)
- **3p:** [How myths and stories are holding things together in times of trouble](#) (Convenors: Marc Audétat, Stéphanie Missonier, Estefania Amer Maistriau, Colin Pahlisch, Baroni Raphaël)
- **3q:** [Hybridising environmentality: re/configuring environmental infrastructures and their imaginaries](#) (Convenors: Cristina Cochior, Guillemette Legrand, Helen V. Pritchard)
- **3r:** [Ecological governance of digitalization and struggles over a public problem](#) (Convenors: Leo Girard, Nicolas Baya-Laffite)
- **3s:** [Making Things Matter: Attending to the Qualities that Hold Care and its Worlds Together](#) (Convenors: Luke Stalley, Eduardo Cano)
- **3t:** [Reproductive Uncertainties and Imagined Futures in the Anthropocene](#) (Convenors: Poonam Kamath, Luminita-Anda Mandache)

### Roundtable discussions

- **4a:** [The Rise of the Broconomy: Techno-Optimism, Masculinity, and the Politics of Progress](#) (Convenor: Lisa Hillers)
- **4b:** [Navigating Togetherness: Stakeholder Engagement and Reflexive Practices in Technology Assessment](#) (Convenors: Janine Gondolf, Sophie Kuppler, Marius Albiez, Christopher Coenen, Kirsten Gaber, Stefanie Enderle)
- **4c:** [Reflecting Controversies: Epistemologies of studying blockchain and other politically charged technologies](#) (Convenors: Anna Lytvynova, Annika Aebli, Fabienne Silberstein-Bamford, Joshua S. Bamford, Violeta Camarasa San Juan)

### Workshops

- **5a:** [Crafting Connections: a Workshop to Prototype Bridges between Research and Practice](#) (Convenor: Francesca Moro, Shiila Infriccioli)
- **5b:** [Critiquing Radicalization: a sociotechnical perspective on political events](#) (Convenors: Heidi Campana Piva, Violette Mens, Camilla Winde Gissel)
- **5c:** [Supporting capacity for critique by teaching Science-Technology-Society \(S-T-S\) in STEM fields?](#) (Convenors: Lisa Sigl, Bianca Vienni Baptista, Maximilian Fochler)

- **5d:** [Intersections in inter- and transdisciplinary research: mapping cultures, practices and policies](#) (Convenors: Bianca Vienni-Baptista, Helena Winiger, Anne-Sophie Schaltegger)
  - **5e:** [Generative methods: Investigating the Use of Generative Artificial Intelligence in the Social Study of Science and Technology](#) (Convenor: Simon David Hirsbrunner, Jana Hecktor, Lisa Koeritz)
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## Panel Descriptions

### Revisiting the Basics

#### 3h: Suspended for Good? The SSK's Critical Programme Resumed

**Open Panel, Wednesday 10<sup>th</sup> September, 12.00 – 13.30, KO2-F-153**  
**Convenors:** Jan Marsalek, Zdenek Konopasek

*Because of its often technical focus, the critical edge of the sociology of scientific knowledge as it was promoted from the 1970s to the 1990s can easily be overlooked. For many observers of this classic period of SSK, discussions about its relativism, of which the so-called Science Wars were an important culmination, have ended up by obscuring the real target of its critical stance, i.e. the public image of science and its guarantor, the philosophy of science. This was indeed the situation to which Bruno Latour and Harry Collins, each in his own way, responded in 2002 and 2004 in their famous texts "The Third Wave of Science Studies: Studies of Expertise and Experience" and "Why Has Critique Run Out of Steam?" In a series of short papers and a subsequent discussion, we will ask whether the critical programme of the classical SSK can be regarded as a futile and regrettable casualty of the Science Wars. We will consider whether it could still prove its viability within STS, which has since reconfigured its critical competence, and perhaps beyond, for example in the field of general science education. Would it be an exaggeration to say that the original critical agenda of the SSK is becoming even more relevant in our societies, precisely because they are lamenting the loss of the togetherness and unity, the building of which has always been the primary research interest of the SSK?*

#### Contributions:

##### **Suspended or Sacrificed? Has the SSK's Critical Ambition Undermined its Research Programme? – Jan Marsalek (Czech Academy of Sciences)**

The aim of my presentation is to discuss the question of the processes and circumstances of SSK's relative sidelining that can be observed after the 1990s. Several factors can be held responsible for this development, but we would like to focus on the then newly emerging need, nourished by the

Science Wars, to rethink the critical competence of the sociology of science. More radically, and also more speculatively, I will ask whether the research programme of the classical SSK can be regarded as a futile and regrettable casualty of the science wars, the vigour of which was destructively combined with the belief that the critical competence of the sociology of science had to be rescued.

**Collins and Latour: Untangling the disappearance of SSK – Zdeněk Konopásek & Jan Maršálek (Czech Academy of Sciences)**

To reflect upon the current situation in the STS field we should not overlook the strange disappearance of one of its predecessors, namely sociology of scientific knowledge (SSK) – i.e., the detailed sociological study of how scientific facts or truths are being achieved by means of collective scientific practices. This subdiscipline has never been openly refuted or abandoned by STS practitioners, its authors are considered classics today, but still it almost vanished from the journals it once dominated. What actually happened? There are many possible explanations. In this paper, we will discuss Collins' argument, namely that the popularity of Latourian ANT is responsible for this development and that the critical agenda of science studies needs to be reformulated within the so-called third wave. We will also examine the Latour's response to that time situation (esp. in his article *Why has critique run out of steam?*, 2004), which we read as an attempt to find a way to explain anew and continue his own program. We will conclude by considering the subsequent trajectories of both Collins's and Latour's work in relation to SSK and by a critical discussion of whether and why we miss SSK today.

**Decolonising SSK: SSK, Science Wars and the Margaret-Linda Tuhiwai Effect – Christelle Rabier (EHESS)**

To what extent the SSK program has been silenced by the Science Wars, as a “futile and regrettable casualty of the Science Wars”? Scholars of the Sokal Affair and its reception in Europe in the early 2000s have enhanced the social and political origins of the attacks, pointing the changing post-Cold War world of science? Modern attacks, both in the USA and Europe, that take pretence of antisemitism, DEI, leftism, climate activism, to la funding, jobs, curricula, student and scholar security to lash out onto science invite hindsight reflection about what SSK foresaw and what the critical program ignore about its own biases about scientific practices. Analysing tables of contents of SSS from 2005 to 2025, the paper will dig into how feminist and decolonial studies have transformed SSK.

### 3j: Bruno Latour: Opening Black Boxes in a Decolonial World

Open Panel, Wednesday 10<sup>th</sup> September, 14.00 – 15.30, KO2-F-123

Convenors: Catalina Jaramillo

*This session explores how Bruno Latour's Actor-Network Theory (ANT) can reinterpret concepts of decolonization through case studies. Moving away from intersectionality, this approach does not focus on the complex interplay of social identities and power structures. Instead, it challenges an unequal view of reality and social organization. By aiming for equality rather than classification, ANT transcends labels of power. ANT deconstructs representations of power, recognizing that power is not the only explanatory context. This means that ANT opens black boxes. Black boxes can be seen as classifiers and creators of things from a post-colonial world. They also promote conspiracy theories, discrimination, and stigma because they exclude alternative narratives and reject diversity. On the other hand, Latour's opening of black boxes generates controversies and multiple actors. Controversies are incommensurable conflicts from multiple perspectives. For example, the production of drugs and the ambiguity in defining a bandit or a terrorist. Illustrate a heterogeneous reality without censorship by power. Controversies show that decolonization is also about not underestimating what may seem strange, exotic, wild, or absurd. In conclusion, what role does ANT play in the decolonization process?*

#### Contributions:

##### **Pablo Escobar Opening Black Boxes in a Decolonial World – Catalina Jaramillo (University of Bath)**

Pablo Escobar remains one of history's most enigmatic and notorious drug traffickers from the 1980s. Studies of Escobar have primarily focused on a Western perspective, interpreting him as a drug trafficker and terrorist. These studies neglect to consider that Escobar developed in a postcolonial context. This dominant image of Pablo Escobar is viewed through the lens of "narco-culture," which encompasses illegality, violence, wealth, flamboyant lifestyles, excessive consumption, and vulgarity.

The narco-culture constructs black boxes that create impenetrable systems. Black boxes hinder the reinterpretation or inclusion of new inscriptions, minimising other aspects of Escobar's identity. Narco-Culture activates a perception of truth dictated by power. Revealing the contents of black boxes helps us comprehend Escobar and cocaine within a post-colonial context, shedding light on the debate about the extent of their illegality. The methodology of Bruno Latour, Actor-Network Theory (ANT), can open these black boxes. In ANT, all actors hold the same values. With a focus on equality, ANT provides a method for examining these issues through controversies rather than power dynamics. Addressing controversies promotes diversity and acknowledges Pablo Escobar's paradoxical nature.

How can we use ANT to interpret Escobar as an example of decolonisation?  
How is it possible to understand Escobar outside the traditional view of the Narco-Culture?

**Opening the Black Box of Urban Development: Public Controversies at the Amazon Megaproject in Cape Town – Laurin Baumgardt (EPFL)**

This paper focuses on efforts by indigenous Khoi activists to oppose a mega-development in the middle of the Two Rivers Urban Park (TRUP) at the Riverlands site (formerly known as the River Club) in Observatory, Cape Town. In the paper, we argue that, even though the mega-development ultimately went ahead, intense contestation surrounding Khoi cultural heritage contributed towards opening up the 'black box' of urban development in Cape Town, as well as pressuring the developers to accommodate some demands of indigenous activists and environmentalists. We also examine why and on what terms it was even possible for a small group of indigenous activists to temporarily halt a mega-development driven by powerful actors, including Amazon, the City of Cape Town, and private developers. What the anti-development activists achieved was to refuse to allow the alliance of developers and local and provincial governments to continue operating under the radar. Drawing inspiration from Bruno Latour's notion of the black box, we show how these activists were able to temporarily interrupt the construction process and create the conditions for opening up to public and legal scrutiny the opaque character of urban development processes. In Latour's original discussion of the concept, opening the black box referred to prising open the collective construction of technoscientific facts by following their controversies. In an analogous manner, closely following the 'River Club controversy' in the media and the courts ultimately allowed us to get a sense of its making, contestation, and unfolding as a 'development in action'. While Latour's concept of the black box only provides one entry point for analyzing the hidden relationships and opaque processes that inform capitalist mega-developments, we are particularly interested in how this concept can be used productively in studying the ways in which urban development operates in a city such as Cape Town.

**A Latourian and a Decolonial Thought Scholar walk into a room... – Jens Haendeler & Demetra Kourri (Manchester Metropolitan University)**

Over the past year, we have been engaged in an intense, rich, oftentimes conflicting discussion on the ontological framings of Actor-Network Theory versus decolonial thought. As two scholars having worked in colonial and post-colonial landscapes, we pondered on the juxtapositions of decolonial thought and ANT, traced similarities, differences and, finally, decided to work together on two case studies on opposing sides of the world: Bogota, Colombia and Limassol, Cyprus, tracing post-consumer vehicle waste and the kinds of colonial legacies that can be found in on-the-ground practices in contrast to top-down government policies.

We agreed that an ANT framework and a multi-sited ethnographic investigation (Yaneva and Mommersteeg, 2019) would allow us to trace and carefully unpack the actors involved in our case studies, situating their role in the production, reproduction, and reuse of vehicle waste and its composites. Decolonial thought, on the other hand, would elicit an acknowledgement of local knowledge and its non-traditional representations while situating the present within the history of coloniality (Mingolo 2007, 2009; Quijano 2007). Decolonial thought would also acknowledge the body as a site of knowledge production in its own right and, in turn, experience as a process of learning (Mignolo 2009). The world of experience, of course, resonates with Latourian empiricism as produced in the field of action (2005). In this paper, we aim to discuss the potential of combining decolonial thought with ANT and the kinds of possibilities it offers for research in postcolonial landscapes.

## **1d: Back to Basics: Returning to Practice, Probing the Medium, Remixing the Social!**

**Experimental Format, Thursday 11<sup>th</sup> September, 9.30 – 11.00 & 11.30 – 13.00, HG F 26.1**

**Convenors:** Philippe Sormani, Sophia Prinz, Christopher L. Salter

*In the early 1990s, Science as Practice and Culture (Pickering 1992) encouraged STS researchers to investigate the situated practices and material cultures of multiple technoscience(s) in action. Yet the volume also staged programmatic arguments that accentuated disagreement on why to engage with "material culture" and how to take a "practice turn," if so at all. What held the field together? If that question was already difficult to answer at the time, although the staged controversies intimated common ground, the question arguably presents us with a trickier task today. Not only has the field of STS expanded, multiplied contrasting genealogies (e.g., Rouse 1996; Woolgar 2004) and alluring "proverbial economies" (Singh & Lynch 2024), but the contemporary poly-crisis, including (tech-)authoritarian "state capture" in the US, also present the field with a troubling picture of global proportion: what holds the world together?*

*Taking its cue from the "art of assemblage" by the late Bruno Latour, this panel takes an experimental form. Therefore, it invites contrasting contributions in (and to) art, design, science and technology studies (ASTS, Rogers et al. 2021), including papers, performances, posters, and/or other kinds of experimental presentations. Prospective contributions should "remix the social" – that is, engage with the fragmented field or conflicted world, subvert the polemic framing of self-serving politics, turn "new IT" inside out, and/or challenge public issue canceling (e.g., "climate change as a hoax"). New forms of artistic experiment, material practice, and/or public engagement (Audry 2021; Born & Barry 2013; Horst 2024) should be presented for the purpose. For example, what might a "Durkheim test" (Leigh Star 1989) for "generative AI" look like, focusing on its social interest, rather than its computing power? How might a "performative experiment" (Guggenheim 2024) contribute to an all-inclusive party, rather than a divisive "artificial hell" (Bishop 2021)?*

*Methodologically, contributions should "return to practice" and "probe the medium" in answer to these (or related) questions, while drawing upon or developing case studies – historical, ethnographic, and/or experimental – to make their ASTS case. Prospective contributions may "engage with the technologies of data generation and visualization [...], that is, with the means and the media through which and with which the results of the sciences acquire contours [...]" (Rheinberger 2019:242). How might the tacit operation of media technologies be made visible by practical engagement with them? How might such "critical technical practice" be pluralized (Van Geenen et al. 2023), while still proving collectively beneficial? And what alternative uses of media, science, and technology, and related forms of solidary community, does it suggest (e.g., a new "ecological class", Latour & Schults 2022)?*

*The panel title Back to Basics then stands for a double move. The title invites contributions that ask why and how the field of STS is to be (re-)assembled, if not cosmopolitics to be (re-)performed. Or, put alternatively, how might a renewed "art of assembling," contribute to "holding things together"? The experimental format of the panel encourages practice-based ASTS answers, welcoming proposals from those interested in STS in Swiss art universities, too.*

## **Contributions:**

### **Session 1 Thursday 11<sup>th</sup> September, 9.30 – 11.00**

**Practicing, Probing, Remixing the Social? A Short Introduction** - Philippe Sormani, Sophia Prinz & Chris Salter (Zurich University of the Arts)

**Intra – Axion! Epistemic Tumbling in Experimental Dark Matter Physics –** Olivier Rossel (Brandenburg University of Technology)

For nearly 100 years, physicists have been working to understand the composition of dark matter, which is predicted to account for about 85% of the universe's total mass according to some theories. Hence, questions remain whether experiments will successfully detect the matter one day. Within the artistic dissertation project 'Intra-Axion!', challenges regarding the (non-)detection of dark matter are researched. Based on fieldwork inside the MADMAX collaboration, actual efforts to detect the sought-after hypothetical QCD axions (a prominent dark matter candidate) seem to significantly deviate from pre-developed modes of experimentation and well-known laboratory procedures.

Highlighting the tension between formal physical constitution and collective imagination of the matter (Fischer-Lichte, E. 2014), an STS-infused artistic session is brought into action. Interested audiences are invited to advance the hypothesis that dark matter exhibits considerably wider-reaching properties and practices than currently acknowledged.

After an introductory deep dive, the matter is set to be worked hands-on through theory bricolage (Citton 2012), namely by collaboratively collaging photographs obtained in the field. — Future melt-togethers of experimental physics and practice-oriented artistic research will be sounded out. A body of knowledge, predominantly governed and disciplined by physics and the arts, likewise seeks to be re-configured by an interdisciplinary approach.

Info & links to the project: <https://olivierrossel.com/>

### **Rehearsing the Examination – Alexandra (Sasha) Bergstrom-Katz**

'Rehearsing the Examination' is an artistic research film from a multimedia project entitled *On Intelligence Tests: Psychological Objects and Their Subjects* which employs novel creative approaches to study the material and performative facets of a charismatic and influential scientific object, the 20th century intelligence test kit. In 'Rehearsing the Examination' (2021), eight actors rehearse and perform a selection of intelligence test kits. By re-contextualising the testing procedure in a theatrical space, the video recasts the test examiner (usually a licensed psychologist) as an actor, the test as a prop, and the testing room as a black box theatre, and therefore re-frames intelligence testing as a theatrical performance. In the film, the actors determine what tone, affect and costuming they find appropriate for playing the examiner, and their performances of this role evidence the decision-making process that goes into the professional performance of the examiner. The test manuals themselves have complex understanding of the role of the examiner, who is figured as a hybrid educator-clinician-scientist. By staging the tests as if they are performances, this artistic research enquires into how a professional test examiner is asked to perform the tests and, at the same time, how the subject of the test is at once a participant and observer of the performance. Therein, it also queries the possibility standardising interpersonal encounters and wonders about the limits of what a good, or even good enough, performance of a test is such that the results are fair and valid.

### **The Unbidden: Embodied encounters with assemblage – Betsy Campbell (Penn State University)**

This performance experiment explores the co-construction and enactment of a postmodern dance as a means of engaging with the concept of assemblage.

Drawing on the work of scholars such as Latour and Mol, this experiment uses dance as an emergent phenomenon within a heterogeneous network of human and nonhuman actors and as an object for reflection. The making and doing of a postmodern dance – a category of dance often characterized by its rejection of expectations of music and costumes and its intentional use of randomness – presents a site for examining how bodies, technologies, spaces, and discourses co-produce recognizable forms (e.g., a dance, a group project, a panel presentation). More specifically, the dance at every phase of its development and enactment offers a site for examining what precisely holds the dance together.

The Unbidden enables each participant, individually and as part of a group, to experience the enduring, yet always new, constellation of practices that translate through time, technologies, and materials. The dance moves themselves hang together to form the dance while remaining emergent. While we know we will be doing a dance at the conference, we will not know the

specific moves or their order until the conference begins. Even then we will not know the exact shape or meter of the performance until it is enacted each time. Moreover, each person will present the moves slightly differently from all other people and differently each time the dance is (re)performed. The dance and our bodies in action are research tools to help us understand relationships across time within a situated network of human and nonhuman actors.

## **Session 2 Thursday 11<sup>th</sup> September, 11.30 – 13.00**

### **Prototyping a genAI Interactive Ethnography – a FAFO Approach – Kara White**

Most endeavours involved in experimenting with ethnography and genAI are concerned with training models, such as identifying and labeling images (Maltezos, Luhtakallio, & Meriluoto 2025) or creating a kind of robot ethnographer that predicts emoji usage on facebook posts (Munk, Oleson, & Jacomy 2022), which relies on an understanding of the ethnographic as interpretative in nature. The most promising review on engaging with genAI as method relies on the uncertainty in both machine learning and design, where the authors suggest the concepts of “thingly uncertainty,” “pattern leakage,” and “futures creep” (Benjamin et al 2021), which emphasize the co-constitutive nature of technologies as dynamically shaping our constantly evolving present (cf Verbeek 2006, 2015). Taking this notion of interaction from design as more than mediation, but still informed by a transductive perspective (Black 2017), this experiment-in-progress asks not about the possibilities of genAI as an actor or collaborator (cf Nordmoen & McPherson 2023) or provides an analysis of the technological affordances (Wakkary 2017) or limitations of genAI (cf O'Donnell 2025) as a sociotechnical imaginary. Instead this experimental prototyping (Corsin Jimenez & Estalella 2017) asks whether it is “idiotic” (Gaspar 2018) to “device” (Criado & Estalella 2018) not just fieldwork, but ethnography itself, to do interactive ethnography as extending, not adding to ethnographic practices – where/when/how ethnographic “data” is not extracted (Parrenas 2023) in the past, to be re-presented/transformed in the present as text, but as a creative process of becoming with/through theory and doing (Mignolo & Walsh 2018)? Through the process of trying to create a story-telling machine, can an interactive ethnography genAI production enact the potential of the multimodal as an intervention (Westmoreland 2022; Alvarez Astacio 2021) into where/how/if/with ethnographic knowledge-production “happens”? Or is it all bullshit (Hicks, Humphries, & Slater 2024)?

### **Real fictions of accessing digital environments – Hanna Göbel (HafenCity University Hamburg)**

In disability communities, digital environments cannot be seen as a convenient given designed surrounding. Digital environments always require

labor intensive media translations and reconfigurations for complex sensory dispositions. These are often based upon DIY-hacks and knowledge rather than professional practices, in order to be experienced as part of everyday life. It has been argued that often unpaid “access work” (Hickman 2023) to digital environments needs more visibility in order to comprehend how a situated “remixing of the social” takes place. Time intensive human labor is needed for making space for various sensory attachments to digital environments resisting ableist conceptions of designed and normatively scripted tech environments.

Through the lens of the co-constitutive approach of dis/ability, this contribution seeks to explore the question how “probing the medium” takes place in digital environment of an online-conference setting by asking the question: what if it was accessible for pluralistic sensory dispositions? I will do so by drawing empirically on a specific case study, an online-series of lectures “Disability and the Digital” realized during 2022-2023 at the HafenCity Universität and in collaboration with an international team of colleagues from disability studies, media studies and cultural studies. With sensory ethnography we traced the complex entanglements between digital environment, medial translations and sensory dispositions of the participants. I wish to bring this empirical insight in as a “return to practice” by bringing it into dialogue with resources from performance studies and with the concept of “real fictions” (Peters 2016). By describing the multifolded practices of attuning with the digital environment, I wish to argue that they performatively shift the constitution of what counts as environment and therefore contribute to the reshaping of the sensory patterns of collective perceptions.

### **Technological Evolutions, In the Margins: An Insight into Marginalia as Academic Practice – Gemma Lough (University of Chester)**

This paper seeks to draw attention to a mundane and consequently overlooked feature of doing academic research: the art of marginalia. Specifically, this paper aims to showcase notes, scribbles and dog-eared pages that make up the craft of leaving remarks in the margins of texts; whether they are the scribbles of a younger self, feedback to/from lecturers and students, or read with a partial context gleamed from a borrowed library book. Practically, marginalia permeate academic research from bought books to borrowed, whilst on-screen forms of marginalia such as digital ‘comments’ or ‘track changes’ inundate drafted works. This research intends to draw on ethnomethodological insights into the craft of marginalia as a predominant and significant method of doing academic work. Additionally, the paper intends to engage with Dorothy Smith’s concept of translocal connections which suggest that there is a networking occurring between singular observable sites wherein marginalia become a tool for linking readers in a specific and unique form of academic dialogue. Furthermore, this paper aims to draw from Donna Haraway’s earlier concept of the cyborg and her later work on ‘making oddkin’ as frameworks for considering our relationships to/with texts, specifically digital texts, and the intertextuality and role of digital marginalia in academic practice. The overarching aim is to make a turn ‘back to basics’, or to mundane practices of doing research, and observe marginalia

as a fragmented 'assemblage' of dialogue. Whereby through 'probing the medium' by which academic research is practically conducted and transformed, marginalia become not merely annotation but a socially organised practice bridging translocal connections across times, locations and institutions.

**Doing being a footnote – Kris Decker (University of Lucerne)**

This performance consists of random footnotes collected from the Science Studies canon, piled up with no clear rules nor ground-breaking questions (let alone answers) in mind, read out loud.

Includes audience interaction: everyone's invited to bring a footnote.

## **5e: Generative methods. Investigating the Use of Generative Artificial Intelligence in the Social Study of Science and Technology**

**Workshop, Thursday 11<sup>th</sup> September, 14.30 – 16.00, HG D 3.3**

**Convenors:** Simon David Hirsbrunner, Jana Hecktor, Lisa Koeritz

*STS scholars have highlighted the inventive (Wakeford and Lury 2014), multifarious (Marres 2017), political and often messy (Law 2004; 2006) character of scientific methods and instruments. Acknowledging Latour's (2004) consideration that critique has run out of steam, STS embraces a non-representational approach to methods which enact scientific realities (Licoppe 2010).*

*With this in mind, how might we situate the advent of GenAI (Generative AI) in the mix of available avenues to conduct and reflect on STS research? In the workshop, we will evaluate what role GenAI could play, or already plays, to investigate STS subjects, what epistemological challenges can come with the many shortcomings of this technology discussed in the literature (epistemic opacity, data biases, systematic unreliability) and to what extent we can accommodate ethical concerns that come with the socio-technical operationalization of this technology (privacy violations, ecological footprint, algorithmic discrimination, global injustice).*

*Drawing on Preda's work on the role of the stock ticker as generator of financial markets (2006), we could evaluate if and how GenAI serves as a generative method for STS in the sense that it reconfigures scientific temporalities, agencies and assemblages. And last but not least, we also want to examine how we can ensure to hold things together in this potentially fluid and unstable course of action - at least as far as we want to. We invite participants to report, debate and experiment with directions involving GenAI to generate new research questions, objects, actors, data, tools and insights.*

**Contributions:**

**Prompted Possibilities: Integrating Generative Models into Participatory Scenario Design** – Jana Hecktor (Universität Tübingen Internationales Zentrum für Ethik in den Wissenschaften)

Generative AI is at the forefront of the current hype around Artificial Intelligence. Its capacity to create content – from images and videos to its most prominent output: text – not only sparked debate about humans unique selling point of being able to create/meaningful/ content but lead to an ubiquitary use of these systems in heterogenous discourse fields. Research on the one hand started to analyze the influence and consequences these systems have (for areas as education, the creative industry, for vulnerable groups in general etc.). On the other hand, generative AI has also become a tool used within research processes. Many discussions sparked around if and how such a usage should be marked, made transparent, be regulated or forbidden due to commonly known risks (e.g. privacy and copyright issues). But it has also been acknowledged how productive and helpful these systems might be – if used consciously and with the right amount of knowledge and literacy.

One example of that, which I want to discuss during this workshop, is using generative AI systems such as GPT, for the creation of scenarios. Bringing some first experience in doing so within an interdisciplinary group of researchers to the table, I want to talk about how this can work, what benefits research can gain but also what the difficulties and possible problems had been.

**"AI Ethics Navigator" - Navigating the intricate landscape of ethical guidelines** – Lisa Koeritz (Universität Tübingen Internationales Zentrum für Ethik in den Wissenschaften)

Interactions with generative AI, especially large language models such as GPT, Gemini or Claude, have become commonplace for many in daily life in recent years. Consequently, applying generative AI methods is currently being explored in research contexts as well.

In this context, I aim to discuss the challenges and perspectives of using generative methods to investigate the deliberation with ethical frameworks in the development and application of AI technologies for responsible innovation arising from our development and exploration of the "AI Ethics Navigator", an interactive generative AI tool. Traditionally, interactions with ethical guidelines occur through static PDF documents from industry or policy contexts, which include detailed descriptions and scenarios outlining contextualized approaches or strategic recommendations. Concurrently, there is a growing number of tools that facilitate more interactive and integrative approaches to ethical deliberation.

I will present the tool "AI Ethics Navigator" as an example of how generative AI can reduce complexity and provide guidance in navigating the intricate landscape of ethical considerations. The "AI Ethics Navigator" works as a question-answering system for a database of over 200 ethical framework

offering users a structured interface providing contextualized answers as well as points to references for users' questions. By leveraging generative AI, the tool assists users in generating context-specific understanding, thereby enhancing the decision-making process in ethical contexts. Participants are invited to engage in a critical dialogue about the implications of our findings and the potential for generative AI tools to transform ethical deliberation in research and practice.

## **Holding Things, Bodies and Worlds Together**

### **3e: Re/symmetrizing Care: Thinking Technical and Natural Maintenance in the Anthropocene**

**Open Panel, Wednesday 10<sup>th</sup> September, 12.00 – 13.30 & 14.00 – 15.30, KO2-F-175**

**Convenors:** Jérôme Denis, Alain Müller, David Pontille

*In recent years, Maintenance and Repair Studies have suggested a double analytical gesture: (1) Building on feminist STS, they foreground material fragility and examine the practices of care involved in maintaining worlds in existence; (2) they illuminate complex human-nonhuman relationships, contributing to a material and relational understanding of the 'social.' These studies have been largely focused on technical objects and infrastructures, marking a significant shift away from the usual STS interest in innovation and breakdowns (Jackson 2014; Denis and Pontille 2025).*

*However, MRS have remained relatively distant from the works exploring the care for 'nature', while sharing many of their concerns. Indeed, a growing literature moves away from a static model of environmental reparation, and grapple with the significant challenge of reifying modern conceptions of 'nature' (Usher 2022).*

*This panel seeks to bring these two trends in dialogue, foregrounding their frictions or articulations, and therefore address the following questions:*

- 1. To what extent do practices of maintenance contribute to assigning different entities to the realm of the technical/artificial or to what belongs to 'nature'? What kind of frictions emerge when maintaining or preserving one implies eradicating the others?*
- 2. What can be learned from maintenance practices that navigate between 'technical' objects and 'environmental' things? To what extent a shared ethics of care can be identified from these? And when/where do differences still matter? To whom?*
- 3. What/who does participate in maintaining what/whom? Can the relations of care be conceived beyond a human subject taking care of a non-human object?*

## Contributions:

### Session 1 12-13:30, KO2-F-175

#### **Who inhabits the cellar? More-than-human relationships in maintenance in Aktau, Kazakhstan – Daria Volkova (Bauhaus Universität Weimar)**

The cellars in mass housing estates in Aktau are a tricky thing to care for. The infrastructure of mass housing was not centrally updated since the Soviet times, and not every house has collectively decided to perform major repairs to their plumbing and sewage. Among many parts of the housing infrastructure that break, maintainers should also account for those who inhabit the cellar – cats, rats, spiders, and insects. This paper explores practices of maintaining the cellar by residents and technical workers, and questions when these practices come into conflict with the presence of others.

Maintaining the cellar demands, on one side, great effort and improvisation. Cellars in mass housing get flooded and are prone to many unexpected breakages. On the other hand, the regular maintenance practices are centered around cellars and strictly regulated through bureaucracy. Maintenance workers should inspect the cellars every day and more intensely, every half a year, and perform many regular tasks such as sanitation. This paper is based on in-depth interviews and ethnographic observations of maintenance work. It questions the location of maintenance as between those two modes, and what are the place of non-humans in it.

Through looking at cellar maintenance, this paper explores different ways of co-existing. Some species are subjected to eradication, such as the practice of “de-ratization,” which should be regularly performed. Others, such as cats, become objects of dispute between those who feed them and let them stay, and those who adhere to the normative rule of “only humans in cellars”. Examining different cases of when spiders, cats, rats, and insects become prominent in maintenance practices, this paper discusses the possibilities of environmental and social ethologies in care studies (Calarco, 2024).

#### **Signals in the Wild: Navigating Noise in Wildlife Conservation through Indigenous Knowledge and Scientific Data - Rachan Daimary & Ajay Kumar (Manipal University Jaipur)**

Wildlife conservation is a dynamic interplay of signals and noise, where ecological indicators, remote sensing, and animal tracking shape decision-making. However, the distinction between meaningful signals and dismissible noise is not neutral; disciplinary biases, technological limitations, and epistemic hierarchies mediate it. This paper critically examines how conservation science filters environmental data and how Indigenous ecological knowledge, often marginalized as anecdotal, offers crucial, yet overlooked, insights. Focusing on Bodoland in Northeast India, a region of rich biodiversity and Indigenous stewardship, this study explores how local knowledge systems interpret ecological shifts, such as species migration,

habitat degradation, and climate anomalies, compared to scientific models. It interrogates the epistemological boundaries determining what is recognized as legitimate conservation knowledge and what is lost in translation. Drawing from Science and Technology Studies (STS), this paper challenges the dominance of machine-generated data over situated, experiential wisdom. Through case studies where Indigenous foresight has preempted scientific detection, the paper argues for an integrative conservation model that bridges these knowledge systems. In an era where conservation is increasingly automated, this study advocates for a pluralistic approach- one that amplifies, rather than silences, the signals embedded in traditional ecological knowledge.

**Unseeing the Split: More-than-Human Care and Maintenance in the Early Anthropocene – Ada Arendt (University of Oslo)**

This paper responds to the panel's call for dialogue between reflection on technical maintenance and environmental care by examining early modern agricultural literature as a rich but overlooked archive of historical care practices. Through analysis of popular vernacular texts on household management, husbandry and agriculture, I demonstrate how pre-industrial era care practices challenge modern distinctions between technical and natural maintenance.

Early modern agricultural texts reveal care networks where the boundaries between technical and environmental were thoroughly blurred. By following the distribution of care in those highly normative texts—its inclusions and exclusions—we can observe how care practices 'environ' (Sörlin and Wormbs, 2018) charting fluctuating boundaries between humans and their surroundings rather than reinforcing rigid nature/culture divides. These texts document practices where humans functioned not as sovereign caretakers but as mediators and facilitators within more-than-human networks of maintenance, attunement, and repair. The concept of 'homo curans' that I propose (after Hamilton 2013) helps illuminate these figurations of care arrangements, where seemingly contradictory processes of nurturing and violence, protection and transformation coexisted within biblically-legitimized notion of planetary stewardship.

Rather than mining the early Anthropocenic past for ready-made solutions, I argue that examining these historical care networks offers a reservoir of "thinkable alternatives" for contemporary maintenance ethics. These alternative figurations of care relationships challenge us to reconsider which actors maintain what, how care responsibilities are distributed, and how maintenance practices simultaneously construct and transgress the boundaries between the technical and the environmental.

**Thinking with Heat: Reconfiguring Care Through Thermal Maintenance – Karolina Sobecka**

This paper discusses an art project titled Thinking with Heat, developed through an art-science fellowship at Laznia Centre for Contemporary Art in

Gdańsk. The project takes the form of an experimental heat reuse system that connects the institutional infrastructure of a seed bank in Powsin, Poland—with its large-scale cryopreservation systems—to a mobile lab space (the heat-lab), built by the artist, and used here for germination and plant incubation. The waste heat generated by the cooling infrastructure is redirected to warm the heat-lab, transforming a byproduct of preservation into a condition for growth.

The heat-lab does not aim to simulate precise ecological conditions but instead becomes a space for fostering plant life under unusual and accelerated circumstances. Taking up the concept of assisted diversification—a controversial conservation strategy based on intentional hybridizing of species within a genus to increase adaptive capacity—it inverts the conventional prerogative to preserve species, turning the focus instead to enhancing ecological processes such as adaptation and evolution. The conserved seeds are grown in combinations with weedy or pioneer species, in accidental configurations rather than disciplined order, prompting reflection on the histories and politics of the processes of selection, separation, stabilization, and extraction in conservation and plant science.

The project offers a way to think about what constitutes care in the face of climate pressures: cryogenic stasis or thermally accelerated ‘wilding’. It invites reflection on who or what maintains whom, and how care is practiced through the negotiation of temperature, time, and ecological becoming.

## **Session 2 14.00 – 15.30, KO2-F-175**

### **Caring for the Damaged Landscape: Maintenance of the More-Than-Human Entanglements in Dutch South Limburg – Ksenia Shepetina (Leiden University)**

Landscapes in South Limburg, a region in the southernmost Dutch province bordering Germany and Belgium, have long been affected by extractive industries and intensive agriculture. Today, however, these damaged terrains are increasingly subject to landscape management, which strives to overcome human-caused disturbance. Despite the debates about the necessary level of human intervention in nature and its previous destructive results, landscape management organizations in the region still frame control and ownership as the most suitable forms of engaging with damaged land. My ethnographic study delves into the work of one such organization. Drawing on participant observation conducted within a Limburg-based volunteer group, supplemented by numerous conversations with the practitioners involved in landscaping in the province and the analysis of public materials, I argue that thinking about the landscape management process in terms of control does not quite grasp its complexity. Instead, I approach it as a practice of maintenance and care, marked by ongoing tensions between competing values and goals. In my presentation, I will demonstrate how damaged landscapes are valued and become grounds for novel more-than-human entanglements, many of which fall outside the organization’s primary objectives. Focusing on specific parts of maintenance work, I demonstrate

how the damaged landscape is enacted as local heritage, but also as a (co)habitable area that facilitates social engagement between volunteers, and mutual attunement between humans and grazing animals. My analysis, therefore, challenges the conventional divides between the social, technical, and natural, illustrating how both the process and outcomes of maintenance traverse and reconfigure these boundaries.

**Signals of Care: Following the Relationships between Plants, Plant Sensors and their Data Scientists – Mylène Tanferri (IT University of Copenhagen)**

This paper examines the relationships between data scientists and horticultural plants, mediated by plant sensors. An emerging area of agricultural technology, plant sensors and the models developed by data scientists to interpret plant signals may seem remote from care and affective work. Yet, I followed the development of a relationship between a data scientist and "their" trees. Their relationship evolves at a distance, with infrequent physical visits. It is also mediated by a large sociotechnical apparatus composed of data, maps, graphs, numbers, and other formalized renderings of the plant's signals. While working on several different projects, the data scientist regularly checks the condition of the trees. Frequently concerned with the temperature levels surrounding the plants, for example, he wonders if these are not too low or too high for their fragile stage of growth. The argument is quite classical: even in the trenches of what is considered the most advanced technological innovations, care and worries for "others" persist (de la Bellacasa, 2011; Latimer and López Gómez, 2019). Prompted by the call, I will ask some questions: while working with digital data implies maintenance such as cleaning datasets (Boumans and Leonelli, 2020) or looking for data gaps indicating sensors disconnections either from the trees or the network that allows data transfer across geographic distances to the data scientist's office - what does working from afar and from signal representations imply in terms of being able to witness but not to intervene in the maintenance/care of the device and the plants – and how does one translate or differ from the other? In addition, what can be said symmetrically about the plants helping the data scientist spend their days focused on a computer? How do plants also help in maintaining their work and professional identity (Archambault, 2016)? But also, how and when sensors reinstate or blur the discontinuities between humans and non-humans (Latimer and Miele, 2013), and how are these constituted as human-non-human extensions of a witnessing ability? Can we define a new category that transcends the nature/technology binary in these plants-as-signals that appear on a computer screen in an office? Can we describe it as novel inter-techno-species relationships that hold together entities that are usually ontologically separated? Through this exploration of human-plant-technology relations, I aim to contribute to discussions about new forms of care that emerge in highly mediated technological environments.

### **Taking Care of What Will Take Care (of Something Else) – Juliette Salme** (University of Liege)

The present study focuses on entities that can truly be described as "natureculture" (Haraway, 2003): namely, mycomaterials. The utilisation of sustainable materials, crafted from fungi mycelium, is driven by the aspiration of offering viable alternatives to products derived from the petrochemical and industrial sectors. These organisms play an intrinsic role in the material's very composition, as they are an integral component of the material's formation. There is no rigid demarcation between technological artefacts and living beings in terms of their very existence. For practitioners, the challenge lies in the care and maintenance of these entities within the laboratory setting and beyond, with the objective of facilitating their involvement in human projects. Concurrently, the delegation of maintenance and repair tasks to the entities themselves is entrusted to the individuals behind their conception. In the field of architecture, the primary focus of my PhD thesis, mycomaterials have been identified as a potential solution for the repair and maintenance of infrastructure. However, the question remains: how do practitioners manage to cope with these challenges on a daily basis? The question that arises is how these entities navigate the space between maintenance practices that fall somewhere between the two aforementioned categories. This is especially relevant when considering the care of materials, where there is no clear distinction between technical objects and the living beings that constitute them, when the primary care is focused on broader issues for which the overarching ecological aim is the preservation of the planet in the context of an ecological crisis. The present paper is based on an ethnographic study of biofabrication practitioners, and poses two questions: firstly, it asks how and when the care of things falls into the natural or cultural realm, and secondly, the question is posed as to whether such a distinction is pertinent when studying these practices in such close detail.

### **The Hybrid City: How the Blanka Tunnel Revealed a Multiple Nature –** Demetra Kourri (Manchester Metropolitan University)

The Blanka tunnel's collapse in October 2008 in a protected park in Prague sparked outrage among residents and city officials alike, putting engineers in a difficult position by scrutinising their expertise and questioning their technical procedures. As one of the project's multiple infrastructural failures, the first of three collapses provides particular visibility into the tunnelling process, revealing the human and non-human actors involved in its making. What is usually hidden during day-to-day operations of urban life and its associated construction practices becomes visible in this failure of technical gesture (Simondon 2016), as the depths of park grounds reveal a layer of unstable soil. This is followed by technical and legislative negotiations that enable us to explore the relationship between the 'natural' and the man-made, unfolding the multiplicity of Stromovka Park as 'natural' and raising questions of hybrid relations in city-making.

The discourse and actions of the multiple actors on the ground become a lens into three modes of Prague or three types of engagement with 'nature': the

'green Prague' (nature is out there); the 'safe Prague' (nature is predictable); and 'modern Prague' (nature must be tamed). By following the actors surrounding the collapse of the tunnel: city council members, the mining authority, engineers, citizens associations representing the public, critical journalists, geologists, and scientists, we see how the natural becomes multiplied.

Through an ANT methodology, the paper maps the practices that allow us to account for the active participation of experts and non-experts 'who engage with the multiple modes' (Yaneva 2015) of the project in question and that realize the many worlds of the tunnel and the park.

### **3o: Holding the Disparate Together: Exploring the Connective Tissue of Built Environments**

**Open Panel, Thursday 11<sup>th</sup> September, 9.30 – 11.00 & 11.30 – 13.00, HG E 33.3**

**Convenors:** Laurin Baumgardt with discussant Professor Madlen Kobi

*Starting with Karen Barad's observation that one can "think the 'holding together' of the disparate itself" (2014), this panel reflects on how heterogeneous components and entities contain and retain a type of cohesiveness, adhesiveness, or persistence over time. It particularly invites scholars of architectural practices and built environments to explore how disparate knowledges, techniques, senses, materials, and actors come and hold together in the production and maintenance of architectures. Considering that built environments and structures are the result of many technical, ecological, and social components, it allows us to comprehend architectural productions as the processual outcome of ongoing material and urban transformations, relationship-building, and socio-political controversies that depend on a multitude of actors (Latour and Yaneva 2008, Till 2009, Yaneva 2012, Ingold 2013, Elinoff 2021). This panel welcomes diverse contributions and case study discussions that convey a concrete sense of lived and imagined architecture. Inviting contributions from a diverse range of fields, such as anthropology, STS, architecture, history, sociology, urban geography, media studies, environmental humanities, and others, we intend to collectively explore questions such as:*

- *How can one hold the "disparate" together without compromising on heterogeneity and difference?*
- *What constitutes the "disparate"?*
- *What holds built environments and spaces together, and what or whom can they hold in return?*
- *What spaces can hold and foster community building?*
- *What care work, maintenance, collectives, and labor produce and maintain built spaces?*
- *And vice versa, what collectives, materials, and relations can be held by built spaces*

## **Contributions:**

**Session 1 Thursday 11<sup>th</sup> September, 9.30 – 11.00, HG E 33.3**

### **Holding Together through Housing: Exploring Collaborative Models in Vienna – Petr Kodenko Kubala (Czech Academy of Sciences)**

What does it take to hold together a collaborative housing project—socio-materially, processually or institutionally? This paper draws on an ongoing postdoctoral research project that investigates the possibilities of affordable housing within planetary boundaries. Vienna serves as a key site, given its long-standing tradition of social and public housing and its emerging experiments in collaborative, environmentally conscious modes of living together. Focusing on one emerging Wohnprojekt, I explore how diverse actors, materials, values, techniques, and imaginaries come—and sometimes struggle—to hold together in the process of making a new form of housing. Based on semi-structured interviews and in-depth case study research, I consider how affordability, ecological constraints, and community-building are negotiated and made to cohere in practice. I conceptualize collaborative housing as a socio-material assemblage that depends on a range of connective labors: infrastructural, emotional, legal, architectural, and ecological. These practices hold in tension various forms of difference while striving to create shared space. The paper traces how emerging dwellings become sites where future residents, architects, building standards, financing schemes, and environmental ideals are continually aligned, adjusted, or contested. The nature of “housing in action” research thus offers insights into how collaborative housing might not only accommodate difference, but actively rely on it, to produce more just and sustainable ways of dwelling within planetary limits.

### **Living Labs as Spaces Enabling Collaboration: A Case Study of Living Labs in Aarhus, Denmark – Rina Vijayasundaram (Aarhus University)**

This presentation explores how a municipality-led living lab can become a space that enables collaboration, and how – in the process of creating such living labs – different actors (government-industry-academia-citizens-nature) influence the space and how the space influences the collaborations within it, especially in regard to possible innovative solutions being created through participatory innovation.

I first present my two case studies, the European projects of 1) BIPED (Building Intelligent Positive Energy District), where the City of Aarhus are planning a living lab to support the creation of a positive energy district and digital twin, and 2) DivAirCity, where focus lies in how diversity can help support solutions towards better air quality, wherein they have already created a small living lab in Aarhus.

I then touch upon the methodology used and explain how the case study is situated in both science and technology studies (STS) and innovation studies (IS), where I use Actor-Network Theory (Law, 1992; Callon, 1986) and the

Quintuple Helix Innovation Model (Carayannis, 2012) as the methodological approaches to shed new light upon the collaboration centred in living labs. The analysis will be based on ethnographic fieldwork in the form of participant observation, interviews and document analysis.

Lastly, I will explain my findings. I expect to be able to speak of how the process of creating and using living labs may enable collaboration and relationship-building between both human and non-human actors, and what this might mean for further urban and digital transformations of cities, especially for initiatives led by local municipalities.

### **Holding Change: Political Ecology of a Materials Test Tower – Dieter Brandt**

This paper examines the Materials Test Tower (MTT) as a research event, an architectural experiment uniting diverse materials, practices, and systems without uniformity. Initiated by Advanced Environmental Design Initiatives (AEDI), the tower evolves through phases: from a testbed to an educational pavilion, a public sculpture, and possibly an ecological playground. Each change challenges extractive logic through material reuse and adaptation.

Situated between Africa and Europe, this initiative connects design and socio-material relations from South Africa, Namibia, the Netherlands, and Germany. It operates in infrastructural transformation and experimentation, evolving through material change and processual delays, rather than permission. The MTT foregrounds material agency as a political ecology through these shifts, enacting a spatial dialogue across territories. The MTT reflects a spatial strategy that avoids permanence, focusing on transformation and controlled incompleteness.

The paper, affected by Jane Bennett's political ecology of things, Bruno Latour's Dingpolitik, and DeLanda's assemblage thinking, views architecture as a dynamic commons evolving with materials, forces, and politics. A sculpture of a reconfigured steel collar marks a shift in publicness, defined by material participation rather than formal designation. Public form emerges from costs, errors, labour, and curiosity, acting as a non-human participant in spatial negotiation.

This paper examines the MTT's evolution into a political and educational site, contributing to debates on architecture's role in handling diversity, material influence, and infrastructure memory. The political aspect of design lies in maintaining relationships over time, not just the final form. Architecture functions as a dynamic system, connecting varied forms, materials, and communities over time.

### **Beyond housing demolition. The microelements of a paradigm shift – Rocío Calzado Lopez (ENPC Université Paris-Est)**

Secteur 8 is a public housing estate composed of seven residential towers located along the Paris ring road, from Porte Pouchet to Porte de Poissonniers. Designed by architect Raymond Lopez in the 1960s, these

seven towers shared architectural aesthetics and construction methods, yet their life trajectories varied significantly.

While some faced demolition, others underwent transformation; some achieved architectural acclaim, while another one, initially slated for destruction, has been saved and is now undergoing change of use.

The gradual disparity in the fates of these seven towers reveals an extra-large scale story, a paradigm shift in the urban renewal sector in North-West Europe, replacing a context of intense social housing demolitions with that of housing transformations. It also reveals an extra-small story, one that examines what T.F. Gieryn would frame as 'what buildings do', and how buildings, as an assemblage of microelements, influence demolition decision-making processes.

The study focuses on the different scales of action of these microelements, employing an STS approach to trace their maintenance protocols and the technical, material, and symbolic resources mobilized to influence larger governance processes.

The seven times prototype repetition of Secteur 8 challenges spatially deterministic housing estate decay narratives. The sociotechnical analysis of these seven towers reveals the role of the maintenance of architecture microelements in the decision to demolish or transform each tower of Secteur 8. This extra-small analysis enables the study of how individual housing estates contribute to extra-large cultural shifts towards the paradigm of housing transformation.

## **Session 2 Thursday 11<sup>th</sup> September, 11.30 – 13.00, HG E 33.3**

### **Working virtually hard or hardly virtual working? – Verity McIntosh** (University of the West of England)

As immersive technologies move slowly into the mainstream, many employers are starting to incorporate tools such as virtual and augmented reality into their workflows. One of the more appealing 'features' of these simulative technologies is the ability to simulate worlds, tasks and scenarios in virtual environments that would not be considered practical, or even ethical in their physical analogue-built spaces. Scenarios such as disaster recovery, crisis management, civic unrest, harassment, assault and combat can be manifested in ways that are immersive, embodied, and psychologically engaging, but that pose little risk to the physicality of the worker. McIntosh will discuss examples of where these tools are being applied uncritically, often without due consideration of the stress, psychological safety, and consent position of workers. She will introduce a recent study working within a nuclear decommissioning facility in which workers trialled the use of virtual reality technology to teleoperate robots in unpredictable and highly contaminated environments. She and her team experimented with different design strategies, including sonification to explore the multi-sensory experience of high-risk simulation for workers. McIntosh will comment on what might need to

be explored now in terms of labour rights, employers' duty of care, occupational health, the potential for collective resistance, and what positive imaginaries workers might come to expect, require or demand as their work moves increasingly into the virtual realm.

**AI Images of Built Environments: How Do Actors and Technologies Hold Things Together Visually? – Lucas Caluori (University of Hamburg)**

In my contribution, I will discuss the changes in architectural image practices in the age of AI and suggest developing an STS perspective to study AI-generated images within collective imagination and negotiation processes of ongoing urban transformations.

Professionals in architecture and the built environment have always faced the challenge of not only bringing together but also envisioning disparate entities of buildings and spaces. This is especially true for (yet) unbuilt spaces, which are often visualized through images: In the 21st century, digital visualizations have come to dominate architectural representation. Photorealistic renderings produce visually compelling and aesthetic images of (un)built environments, thereby producing and maintaining collectively shared imaginaries of this disparate, complex and contested spaces. Although, as Latour and Yaneva (2008: 86) point out, static digital images have never been adequate to represent complex, disparate matter, they remain central in visualizing, imagining, and anticipating spaces and buildings. With the advent of image-generative AI tools, the ability to create visual representations of unbuilt spaces is undergoing significant transformation: These tools enable faster and easier creation of both photorealistic and speculative images.

In my PhD project, which has just started, I want to address questions such as: How are these image-generative AI tools used to hold together the disparate elements of built environments? And how do these tools imagine spaces that hold together communities, materials, and relations? To do so, I aim to develop an STS perspective on image generative AI tools that I would be happy to present and discuss in this panel.

My research will build on the premise that visual practices and artifacts profoundly influence the world we live in (Knorr-Cetina 2001; Jasanoff 2004; Burri 2008)—that collectively shared images are key in holding things together.

**The Social as a Trail of Associations: A Networked Understanding of the Sociotechnical Life of a Road Intersection – Alokeparna Sengupta (O.P Jindal Global University)**

This paper responds to the panel's invitation to consider how heterogeneous materials, actors, and meanings come together—and often strain against one another—in the formation and maintenance of built environments. Focusing on Kala Aam Chauraha, a six-road intersection in the two-tier North Indian city of Bulandshahr, the paper explores how architectural forms emerge not from

coherent planning but from contested spatial histories, infrastructural improvisations, and the socio-political labour of governance.

Drawing on six months of ethnographic fieldwork, the research foregrounds how road infrastructure in the urban South is held together through uneven negotiations among planners, commuters, informal workers, historical narratives, and the materiality of roads themselves. While recent road safety literature has adopted systems thinking to move beyond cause-effect models, much of it remains grounded in techno-managerial logic. This paper shifts the lens toward a spatially and socially situated analysis that takes seriously the lived complexity of urban intersections.

The oval-shaped island at Kala Aam—designed under a beautification agenda—fails to function as a roundabout, revealing a disconnect between visual-symbolic interventions and the technical demands of road geometry. Interviews with traffic police, planners, roadside vendors, and pedestrians uncover multiple and sometimes conflicting understandings of the intersection's form and function. The result is a space shaped less by clear intentions than by affective, political, and material entanglements.

Following Latour's and Barad's calls to trace associations and consider how the disparate cohere, the paper approaches the intersection as a fragile sociotechnical assemblage, where infrastructures and urban life are continuously improvised, resisted, and reassembled. In doing so, it contributes to broader architectural and STS conversations on the politics of maintenance, spatial justice, and how everyday urban spaces precariously hold together.

### **Assembling heritage (differently) in Cuenca, Ecuador – Sam Rumé** (University College Cork)

The tramway in Cuenca, Ecuador, constructed between 2013 and 2020, can be described as traversed by two overlapping, yet divergent, projects. First, it was framed as a spectacular modernization project, unprecedented in the region and able to revolutionize the city. This was not only how the responsible mayor framed it, effectively generating political clout around it, but also how many inhabitants understood it, in line with traditional progress imaginaries linked to infrastructure construction. With its sophisticated French technology, the tram was widely marveled at as a device from the future and from Europe. The second project entangled with the tram was one of sustainability: as an electrical, accessible, and smooth means of transport, the tram was considered as a potential instrument to make the city more environmentally and socially sustainable. These two framings of the tram did not necessarily contradict each other; in fact, they were often combined in discourse. However, the second (sustainable) framing was also articulated by certain local officials, academics, and engaged citizens as an alternative – if, and only if, the tram managed to fulfil its potential for sustainability – to a tradition of technological modernization which had produced much of today's unsustainable urbanity. Spectacular modernity was, thus, already embedded in the tram's aesthetic, but its sustainability still had to be carefully constructed, in tension with its spectacle. The paper I propose, based on

ethnographic research in 2020-21, reflects on this tension and asks whether new infrastructures are inevitably imbued with the spectacle of modernity.

## **1e: Design crossing sciences for health: Perspectives on more-than-human relations and care-full practices**

**Experimental Format, Thursday 11<sup>th</sup> September, 14.30 – 16.00, HG F 26.3**

**Convenors:** Aylin Yildirim Tschoepe

*The interconnectedness of human and planetary health has become undeniable in our current moment of ecological and humanitarian crises. Current events exemplify how materially intertwined, precarious, and complex planetary systems are, demanding a collective response among more-than-human communities. This understanding builds on critical scholarship in environmental humanities and design theory (Escobar 2018, Haraway 2016, Puig de la Bellacasa 2018, Tsing, Swanson, et al. 2017) that emphasizes the necessity of new alliances across generations, borders, and forms of expertise.*

*Access and knowledge to health is unevenly shared, when health should be a common good. This explorative format specifically examines care-full practices as responses to this inequity, focusing on critique of existing systems, transdisciplinary knowledge production, and probing and prototyping or other forms of collaborations: Exploring (self)care as distributed – not through technological fixes, but, among other paths, through care-full posthuman collaboration (Tschoepe 2024), knowledge production, and embodied relations.*

*Science and Technology Studies (STS) provides our primary theoretical framework, bridging social sciences and design approaches. The contributions of design theory and research to epistemological diversity are now well-established (Mareis 2011, 2021, 2022), with strong methodological foundations laid through design anthropology (Clarke 2011, Gunn 2013) and design ethnography (Cantarella, Hegel, Marcus 2019). These approaches enable new material, aesthetic, and epistemological approaches to contemporary knowledge production.*

*This format adopts a multimodality to facilitate translational work between design and sciences (social sciences, life sciences, and computer sciences). The goal is to flatten hierarchies of knowledge between disciplines while privileging lived experience, localized knowledge, and embodied practice. Thereby, design contributes to deeper scientific approaches through applied research and experimental practice, enabling direct, sustained engagement with complex, multiscale issues of health.*

### **Contributions:**

#### **Co-Creating Health Data Commons: Design Strategies for Sense-Making and Collective Action in the MAKEAWARE! Project**

Serena Cangiano (Supsi University), Zoe Romano (University of Milano)

This contribution presents SPEARHEAD-MAKEAWARE!, a design research project addressing the entangled relations between human and microbial health within the global antimicrobial resistance (AMR) crisis. AMR demands

practices of care that move beyond top-down healthcare models. In response, the research project adopts participatory, feminist, and practice-led design approaches to reframe health as a situated common good, emphasizing distributed responsibilities among human and more-than-human actors.

The project unfolds through workshops, digital tools, and citizen co-creation initiatives that experiment with alternative modes of health data generation. Practices of citizen-generated data (CGD) around antibiotic consumption enact "care-full" infrastructures of knowledge production that are affective, situated, and collective. Workshops like Visualizing the Resistance combine microbiological experimentation with speculative design to render microbial resistance tangible while Perturbant Fluids is one of the workshop format that highlight how engagement format on science can empower people in understanding body data and science narratives.

Grounded in feminist Science and Technology Studies (STS), the project addresses health inequalities, focusing particularly on recurrent urinary tract infections (UTIs), a condition disproportionately affecting women and often neglected in mainstream research. Through participatory research practices and open data practices, and transdisciplinary collaboration, the project proposes experimental infrastructures for post-anthropocentric health futures. It exemplifies how critical design can materially intervene in the co-creation of more-than-human commons.

### **Patient simulations in healthcare as embodied in vivo experiments – Michele Luchetti (Universität Bielefeld)**

In the past decades, patient simulations have become a widespread educational tool providing medical trainees with hands-on experience without involving actual patients (Lewis et al. 2017). Patient simulations have been claimed to benefit medical students in that using human simulators 'humanizes' medical trainees by enabling them to exercise the emotional work of clinical practice (Nestel et al. 2018). However, critics have suggested that the idealized scenarios on which these simulations are based may also reduce the creativity and openness of medical students and produce stereotyping effects (Hooker & Dalton 2019). On the other hand, recent works focusing on the performative character of patient simulations (Jowsey et al. 2020, Mermikides 2020) went beyond classic critiques of medical performativity (Goffman 1959, Haas & Shaffir 1979), but scarcely engaged with normative considerations.

In this talk, I analyze patient simulations as a form of technology, to help clarifying their epistemological scope and purpose. Specifically, I will propose that patient simulations should be regarded as a form of embodied in vitro experimental practice, through which medical students experiment with the relational aspects of clinical practice. By drawing on insights from Rheinberger's (1997) notion of experimental systems and philosophical debates on simulations as experiments (e.g., Winsberg 2003, DeLanda 2019), I will characterize patient simulations training as providing medical students with a controlled laboratory-like setting in which to explore their medical and

individual selves in the context of the clinical encounter. In this sense, these simulations can be understood as real in vitro experiments, thanks to which medical students can gain knowledge about their medical and personal selves. Taking this perspective supports the normative insight that while, idealizations and fictional components are germane to this practice, they should be explicitly addressed as part of the training together with practices of de-idealization and relative issues.

**We Are All Hummingbirds Now: Convivial Metabolisms in a Sweet, Sweet World** – Jamie Allen and Sara Krugman (FHNW IXDM Critical Media Lab & metaLab Basel)

Convivial Metabolisms explores how interoceptive awareness, community-based knowledge, and chronic illness care are transformed—and often diminished—by automated health technologies. Drawing on Ivan Illich's concept of convivial tools (1973), Hannah Landecker's notion of post-industrial metabolism (2011), and Jonathan C.K. Wells' *The Metabolic Ghetto* (2006), we consider how increasingly automated metabolic care systems (e.g. AI-driven insulin delivery) risk deskilling users and fragmenting embodied expertise, particularly among vulnerable communities. Elizabeth Hoover's work on "metabolic ghettos" (2017) further contextualizes how toxic exposure and inequitable access to care shape biosocial health outcomes.

This contribution presents research and design work undertaken with diabetes communities across Switzerland, Denmark, and the U.S., combining ethnographic research, participatory design, and speculative prototyping. Working with Sara Krugman's lived experience as a designer with diabetes, we design artefacts and interactive systems that support interoceptive sensitivity, embodied learning, and collective sense-making—what we term metabolic media.

Framing the hummingbird's rapid, sugar-fueled metabolism as a metaphor for our increasingly precarious bio-socio-technical entanglements, we ask: How can we design for care, adaptation, and relational knowledge in high-speed health systems? How can automation amplify, rather than override, human and more-than-human expertise?

This presentation will share design artefacts, research insights, and questions emerging from a four-year interdisciplinary project, offering a translational and multimodal contribution to the politics and practices of care in automated health futures.

**Contradictions of "Hege und Pflege" in Nutria-Human Relations - A Multimodal Approach** – Janna Weseloh

The German terms "Hege" and "Pflege" describe a specific type of multispecies care relationship. They support the idea that nature needs human care in order to maintain its health. Especially German hunting law is governed by moral obligations the concept of Hege creates (von Essen/Allen 2021: 183). In this sense, a hunter's chase including the inhabiting animal populations needs to be cared for - no population should be eradicated.

Chases are understood as ecosystems whose balance and health must be protected. However, the appearance of invasive-made nutrias, which have a high reproduction rate, dig tunnels and eat reeds, threatens the idea of a balanced ecosystem. Additionally, European biodiversity law challenges the traditional rule of Hege by obligating hunters to eliminate the nutria population. At the same time, animal caretakers are forming new kinship relations with nutrias that only exist because of their status as "invasive" species. Contradictions like these are recurring features of the network of nutria-human relations examined in this research. Concepts of care, kin, nature, "invasiveness" and regulation are characterizing the relations between the involved actors that include nutrias, dogs, hunters, animal caretakers and artists.

This project's website, Nutria Networks, visualizes this complex network of multispecies relations. Its multimodal form incorporates film and text, which can be experienced interactively. This allows the many contradictions and connections of nutria-human relations to be explored through mutual narratives. This work has two parallel objectives: Firstly, it aims to highlight the various characteristics of care relations resulting from more-than-humans being categorized and governed by human politics, and to emphasize their capacity to challenge these categories and laws. This prompts the question of what counts as care-full practice and which care is truly necessary to maintain whose health. Secondly, it uses multimodal approaches to create an interactive ecosystem that reflects the complex network of multispecies care relationships.

### **Designing with Forests: Care-full Co-Production for Ecological Monitoring in Times of Climate Crisis – Shiila Infriccioli (ETH Zurich)**

This contribution explores the role of design as a care-full practice and epistemic mediator in transdisciplinary research at the intersection of forest ecology, digital technologies, and participatory forest governance. Embedded in the UPSCALE project, my doctoral research aims to co-develop a web-based platform for real-time forest health monitoring in Switzerland, co-designed with scientists, forest practitioners, and communities.

In response to the increasing impact of climate-related droughts on forest ecosystems, the project challenges linear models of scientific knowledge transfer by fostering situated and inclusive knowledge co-production. Drawing on transition design and transdisciplinary methodologies, the research engages with multiple modes of expertise—scientific, local, and experiential—through iterative co-design and engagement processes that integrate science and practice. These practices aim to ensure that the digital infrastructure reflects both ecological complexity and the needs of those living and working with forests.

The web-based platform, as a socio-technical object, becomes a site of negotiation between more-than-human health, technological mediation, and long-term adaptability. Designers here play a crucial role in facilitating material and epistemic translation, ensuring usability while embedding values of care, justice, and inclusivity. Ultimately, the project reflects on how design-led,

practice-based research can contribute to ecological transitions by cultivating interdependent, situated, and care-full responses to environmental crises.

### **3s: Making Things Matter: Attending to the Qualities that Hold Care and its Worlds Together**

**Open Panel, Friday 12<sup>th</sup> September, 11.30 – 13.00 & 14.00 – 15.30, HG F 26.1**

**Convenors:** Luke Stalley, Eduardo Cano

*STS scholarship has long examined care, maintenance, and repair, attending to the skills, techniques, and everyday labour involved in holding things together.*

*Praxiographic and maintenance studies (e.g., Pols, Moser & Mol 2010; Pontille & Denis 2024) have shown how practitioners engage in acts of tinkering, attuning, and responding—whether to patients, experiments, technologies, or infrastructures—through intimate situated work. Care here is not inherently benevolent nor stabilising, but normatively ambivalent, shaped by tensions, constraints, and uncertainties.*

*A second strand of work invites us to study care as a selective and power-laden mode of attention (Puig de la Bellacasa 2017). Insofar as care foregrounds certain things while neglecting others, it challenges us to ask what is deemed worth maintaining and on whose terms. Holding on to a 'double vision of care' (Lindén & Lydahl 2021) we may say that care does not simply find its objects, but enacts them, distinguishing and describing the very needful-ness of things that justify the response care has to offer: from vulnerability, fragility, suffering and deterioration to faultiness, dysfunctionality and obsolescence.*

*We invite contributions that explore the relationship between care and the qualities that are made to matter in its undertaking. How are such qualities established, assessed, (de)valued, or contested? How do they relate to the scope, limits, and exclusions of care? What becomes necessary, possible, or impossible to care for, and on whose (and what) terms? We welcome papers, interventions, or provocations that critique or appreciate, articulate or interfere with care, its objects, and its limits, to reflect both on the work of holding things together, as well as the terms on which they may fall apart.*

#### **Contributions:**

##### **The invisible care. Words, silences and meaning in healthcare communication – Federica Gozzo**

The communicative act within the context of care presents distinct characteristics and critical challenges. These complexities stem from multiple factors: biomedical reductionism, which limits understanding of the individual to their bodily dimension; institutional paradigms that often discourage caregivers from deviating from established protocols; the persistent emotional and relational distance between healthcare providers and patients; and the frequent marginalization of patient participation in the process. (cf. Pizza, Basaglia, Quaranta, Cozzi).

The issue of translation arises from the outset—in the doctor-patient encounter—since the message concerning the patient's body, articulated through biomedical categories of health and illness, is mediated by language and filtered through an interpretive process. The reverse exchange, from doctor to patient, is similarly complex and involves an often opaque code that the patient must decipher and understand.

Within a broader ethnographic framework, I explored two specific domains where communication proves especially problematic. The first involves children with rare diseases. In these contexts, parents—particularly mothers—refine their communicative skills, acting as intersemiotic mediators who translate signs, symptoms, and intuitions into verbal language. They often acquire a specialized vocabulary to effectively convey their observations to medical professionals. The second area concerns support groups formed around “invisible” or difficult-to-treat conditions, such as cluster headaches, psoriatic arthritis, or pudendal neuralgia. These communities foster collective strategies of expression and interpretation that challenge dominant biomedical narratives.

As the Italian filmmaker Nanni Moretti once said, “Words are important.” In the realm of care, words assume a fundamental importance—just as silences and communicative voids do. Through both speech and silence, meanings are conveyed, filtered, transformed, appropriated, and reproduced. This is why communication must be recognized not as a mere adjunct to care, but as its fundamental tool.

### **More Than Looks: Aesthetic Evaluations and the Ethics of Prosthetic Care – Chenchen Ma (University of Amsterdam)**

What makes a prosthesis “good”? Through ethnographic fieldwork in a prosthetic company in China, this paper explores how aesthetic values shape the evaluation, use, and adjustment of prosthetic limbs, and how these values intertwine with practices of care. Users and practitioners frequently assessed prosthetic quality not only in terms of mechanical fit or functional performance, but also through its appearance—its sleekness, texture, or symmetry. As one user put it, “If a prosthesis looks ugly, it can never be good when you wear it.”

This observation invites a broader inquiry into how aesthetic judgments shape care work and human–technology relations. Far from being ornamental in everyday life, aesthetics are entangled with ethics, identity, and affect in the experience of the world. In prosthetic care, these values are amplified: aesthetics mediate what kinds of bodies are made livable, what devices are seen as acceptable, and what forms of intervention are considered worthwhile. These judgments, I argue, are expressions of deeply embedded cultural aesthetics, such as Confucian ideas of bodily wholeness, and contemporary desires for self-presentation and dignity. In doing so, they mediate relations between humans and technologies, patients and practitioners, form and function.

Attending to these aesthetic evaluations invites us to reconsider what counts as care and what qualities are made to matter in its enactment. In the world of

prosthetic rehabilitation, where bodies are continually reshaped and reassembled, care is not only about maintaining function but also about maintaining form, identity, and social recognition. By exploring the selective visibility that aesthetics afford, I reflect on how they shape the ethics and limits of care, especially when technologies are not only tools but intimate extensions of the body. Ultimately, this paper asks: how do aesthetic norms configure what is possible to care for, and how might rethinking aesthetics transform our understanding of good care?

**Rethinking the relations among care, hypertension, and race – William Rosa (University of Amsterdam)**

My PhD research examines how race materializes and produces effects within practices of hypertension care. In this sense, care is not merely a context but a central analytical lens through which I explore the entanglements of biological, social, and political life. Since early 2023, I have been conducting ethnographic fieldwork in a public primary healthcare facility in Brazil, following the everyday routines, tensions, and decisions that shape hypertension treatment. Hypertension, a chronic metabolic condition, is identified by the World Health Organization (WHO) as one of the leading causes of cardiovascular-related mortality worldwide. Yet, its distribution is uneven: it disproportionately affects non-white populations. Rather than assuming this disparity as self-evident or purely biological, my research asks: how does race come to matter in the enactment of care? Through which mechanisms does it gain salience in clinical guidelines, diagnostic routines, and therapeutic practices? And what kinds of bodies, risks, and responsibilities are being assembled in these processes? Medical guidelines often invoke both biological and social explanations: they state that certain populations are more likely to have high blood pressure due to certain predispositions, while also recognizing the influence of “social elements” on cardiovascular health. This dual framing invites attention to the ways in which race is co-produced, emerging not as a fixed category, but as a contingent and situated effect of how care is organized, standardized, and practiced. In the clinical management of hypertension, race surfaces at multiple sites: in guideline recommendations, pharmaceutical literature, and the interpretive flexibility applied to blood pressure measurements across patients. This presentation traces how race is enacted in these moments, foregrounding the controversies, negotiations, and uncertainties that permeate everyday practices of care in a primary healthcare setting.

**Clay and Other Earthly Matters – Sasha Bergstrom-Katz**

In 2015, amateur palaeontologist Sigulf Guggenmos found a prehistoric elephant tusk in Germany’s Hammerschmiede clay pit. Since then, palaeoclimatologist Madelaine Böhme (Universität Tübingen) has led numerous digs in the fossil-rich land, discovering, for example, bones belonging to an ape who lived approximately 12-million years ago. The clay pit has thus been the focus of citizen science activities, scientific meetings, and press conferences. The clay pit is also an industrial locale of clay mining.

The site is thus constituted of many actors coming together and intra-acting (Barad 2007), including, but in no way limited to: the clay itself including its material constitution (silica, oxides, rotted plant and animal life) and how it acts (sticky, nourishing, dense), the remnants of past lives (sea-life fossils, primate bones), the activity of still-alive creatures (microbiomes, insects, mammals) and the sometimes conflicting human-animal economic, industrial, scientific and recreational interests. For the conference, I will present field recordings, documentation of a small-scale material collection and preliminary interviews with people who interact with the site about their experiences of and with the site itself. Initiated initially because of my research into clay's uses in psychotherapy practices, this presentation evidences a diversion which seeks to understand clay's lively site(s) of extraction. In the context of this panel, this presentation wishes to pay particular attention to different interests in regard to care and looks for where there are convergences and conflicts. Can, for example, preservation, scientific research, and extraction co-exist in the very same space?

**“I don't use that anymore”: preservation and care of things in the homes of elderly people – Cornelia Hummel (Université de Genève)**

In European countries, there is a strong public policy emphasis on aging at home. If the “ageing” part of “ageing at home” has been the subject of numerous studies, few studies have looked at the home as a specific ecology, made up of interactions between humans and non-humans, and encompassing a range of knowledge, practices and sensory and emotional experiences. Drawing inspiration from the material turn initiated by science and technology studies, and especially material gerontology, our research focuses on materialities of aging.

We consider the home to be a site of collaboration between humans and things, this collaboration providing wellbeing and security, through routine, ordinary and mundane activities. These activities can be grouped together under the expression “taking care of one's home”, or , in Denis & Pontille's (2022) words, maintaining one's home.

In this paper, we will focus on objects that are no longer used but are still carefully preserved in the home. After examining various configurations of non-use, we look at two types of preservation: the “stand-by” preservation and domestic museumization. In both cases, preservation reveals a form of attachment and reciprocal care: the person takes care of the object and the object takes care of the person, for example through the memory of past practices. The reciprocal care is a form of holding things together in the home. However, the increase in the number of unused things, due to the weakening of physical or mental health, can upset this balance and make things invasive and threatening.

**Coordinated care: Back office work in multi-level information systems – Matthias Leese (ETH Zurich)**

In European security governance, large-scale databases such as the Schengen Information System (SIS) are often portrayed as seamless

infrastructures that enable swift and secure information sharing. Yet, the day-to-day operation of such systems rests on the ongoing work of a largely invisible class of professionals tasked with the maintenance, verification, and synchronization of data. This paper explores the practices of these data curators who care for SIS data across national and supranational levels. Drawing on 46 expert interviews across the national and European level, it foregrounds how their back office work involves a form of care that is deeply situated, materially entangled, and shaped by organizational, legal, and infrastructural constraints.

Rather than romanticizing care, the paper follows recent STS scholarship in viewing care as ambivalent, selective, and constrained. SIS professionals must negotiate normative tensions between legal compliance, technical functionality, and institutional legitimacy. Their care practices often unfold under conditions of limited resources, outdated infrastructures, and organizational marginality. By conceptualizing these practices through a politics of curation, the paper argues that care in multi-level systems is not about harmonious integration, but about holding together complex and fragile assemblages. In doing so, it interrogates what it means to care for data rather than people, and under what conditions such care is rendered possible, necessary, or impossible.

### **Documenting with Care: How the Everyday work of Librarians displaces classification – Solène Gouilhers & Camille Yassine (Université de Genève)**

This paper analyzes the practices of care that support the integration of a sexuality-focused heritage collection in a university library, requiring new practices of classification. Emerging from the collaboration between a librarian and a sociologist, the presentation sits at the intersection of critical librarianship and feminist STS. It contributes to reflections on the politics of knowledge production, showing how care work enacts novel epistemic forms.

We focus specifically on the daily practices of librarians tasked with cataloguing and curating a heterogeneous corpus of 50,000 documents related to sexualities, ranging from pulp fiction and anatomical treatises to sexology literature and pornographic magazines. Drawing on the notion of care as situated attention (Puig de la Bellacasa, 2017) and on classification as infrastructure (Star & Bowker 1999), we examine how everyday documentary decisions shape the way content is approached and interpreted. We also explore the complexity of the issues raised and the tensions revealed.

How is the scientific and heritage value of the collection qualified—either affirmed or contested—and with what consequences in caring for classification? How do the tensions between different perspectives (those of librarians, users, university, and international classification network) shape these processes? We investigate how acts of tinkering, attuning and responding are deployed by librarians to navigate ethical, epistemological, and practical tensions when handling sensitive materials within constraining classificatory frameworks—particularly as these classificatory regimes are historically embedded in and reproduce discriminatory normative logics. We

show how librarians comply with standardized practices, while also attempting to displace them by engaging new actors, as community-based collective.

We argue that this everyday work performs care for feminist, situated, embodied, and justice epistemologies. The collection thus becomes a site of both care and contestation, where knowledge hierarchies are negotiated. It also makes visible the political and fragile nature of what holds sexualities, care and sciences together.

### **How to take care of a telegraph network. Continuities and changes in the maintenance and repair organization in Switzerland (1852-1882) –**

Riccardo Ferrigato (Università della Svizzera Italiana)

The expectations and conformation of the first telegraph infrastructure in Switzerland, built from 1851 and operative since 1852, are closely linked to the political project of the new Federal Constitution of 1848. This political dimension of the infrastructure is reflected in its maintenance policies, analyzed in this article up to 1882, when the pioneering period of the network can be considered to have ended.

The organization of network maintenance and repair was discussed and modified several times during this period, especially in the context of the care of the network considered as a complex of wires, cables, poles and insulators extended for thousands of kilometers over the territory. Methods, responsibilities and expected times for maintenance changed during this time, influenced by political assessments, geographic criteria, technical advancements, obsolescence, usage and general trends in the economies of the Telegraph Administration, the federal structure responsible for Swiss telegraphs.

The article investigates, also thanks to unpublished archival sources from the Federal Archives in Bern, the qualities of the network and the expectations that had an impact in the way the Swiss telegraph network was maintained, either by maintaining them over the period under analysis or by bringing about changes. Likewise, telegraph devices maintenance and repair policies, based in the Federal Workshop of Telegraph, will be investigated.

### **When the researcher has to engage in ethics of care even before starting fieldwork. – Marie Bieler (Université de Genève)**

Mol et al. (2010) stress that care must be done in practice but how can we anticipate the way we will be taking care of participants as well as ourselves during our fieldwork? What happens when we must tinker with diverse methodological tools to take care of the field? How much are we allowed to tinker and adjust during data collection to hold things together?

These questions emerge from my PhD, a qualitative study focusing on everyday tactics and practices of adults diagnosed with autism spectrum disorder with or without intellectual disabilities in Switzerland. I seek to understand how arrangements involving human and non-human entities are contextually put in place to support their autonomy.

With this contribution, I aim to discuss how, as qualitative researchers, we also engage in ethics of care before, during and maybe even after our fieldwork, especially when interacting with a heterogeneous population.

I plan to conduct interviews with adults diagnosed with ASD situated at different points of the spectrum. This requires thinking about a flexible data collection protocol that can be adapted to their specific needs, knowledge and skills. Before starting fieldwork, it is necessary to consider tools and techniques that could be used to facilitate data collection, without knowing the context in which each participants evolve. This leads to making some choices to delimit the inclusion criteria (being able to give their consent by themselves for example) and exclude some participants (Lindén & Lydahl 2021) to take care of them and the research.

## **Making and Doing Environments and Infrastructures**

### **3n: Infrastructure as Spectacle: Planetary Configurations of Manifestation and Visibility**

**Open Panel, Wednesday 10<sup>th</sup> September, 14.00 – 15.30, KO2-F-174, & Thursday 11<sup>th</sup> September, 9.30 – 11.00 & 11.30 – 13.00, HG F 26.3**

**Convenors:** Julio Paulos, Kathrin Eitel

*Today's globalised infrastructure— from Singapore's Supertrees to Dubai's Frame— contrasts sharply with Weber's disenchantment (1927, 1941) or the "generalised sense of social good" (Harvey & Knox 2015) that infrastructure promises in late-modern statecraft. These structures blend divergent hopes and expectations, captivating citizens with their aesthetic and mythical appeal (Allen et al. 2024; Hetherington 2019). What emerges is not just an unravelling of politics for the sake of poetics (Larkin 2013), but a doubling process in which infrastructure hollows out the politics of urban planning, design and management - and in which invocations of a better future - sustainability, smart nation and so on - seem to eclipse regulation and rationalisation.*

*This call invites papers that examine how infrastructure, urban design, and media enchant, persuade, and regulate both everyday and political life in an uncertain world—one where expertise and governance, perception and experience are eroded to serve a new logic of recognisability. More than a technical solution, globalised infrastructure captivates, inspires, and shapes crises, functioning as both artefact and assemblage of resilience, spectacle, and progress.*

*We ask: How does infrastructure mediate political and social expectations through its aesthetic and symbolic appeal? Does the spectacle of innovation hollow out—or reinforce—urban planning and governance?*

**Contributions:**

**Ilisu Dam Project As a Spectacular Form of State Ideology and/or a Source of Uncertainty, Risk and Ambiguity in Hasankeyf – Mustafa Akcinar (University of Zurich)**

Being Türkiye's one of 'vision' projects with its billion dollars of budget, huge construction body and volume of energy it is promising for the future, the materialization of Ilisu Dam Project could not manage to be that 'so spectacular' due to its negative reputation to be flooding the ancient city of Hasankeyf on Tigris Riverbank. Although there was a massive touristic flow from all over the world to Hasankeyf in order to see the old town 'last time' before the submersion, it was almost not possible to go and visit the gigantic dam construction site during my fieldwork in 2013-2014 there. Furthermore, Ilisu Dam was several times attacked by PKK guerillas as a form of protest in the construction process, which was making the entrance to Ilisu Village, where the dam was located, extra difficult. Ilisu Dam and Village (80km away from Hasankeyf) was protected by Turkish Army and village guards, reminding me to be a forbidden place and 'a security village' instead of being spectacular object of state led, spatial development ideologies. In this context, what spectacular was not the huge dam; but the catastrophic end it was preparing for the inhabitants of the old town. There was a digital counting down machine on the dam construction site, 'heralding' how many days, hours and minutes left for the construction to be completed, putting the villagers under high pressure before the flood. In this context, this presentation aims to de-construct the concept of 'spectacular' by focusing on risk, uncertainty and ambiguity the gigantic Ilisu Dam Project was (re)producing in everyday life in Hasankeyf.

**Encountering Embodied Expertise and Intelligent Locking Systems on China's Grand Canal – Yinghan Guo (Humboldt University Berlin)**

This research examines the evolution of ship passing and dispatching practices at a ship lock on the South Jiangsu Canal in China over the past 40 years, focusing on the daily operations of the ship lock crew and their adaptation to technological advancements in water transport. While often overlooked, ship lock operating crews play a crucial role in the functioning of the canal. Their work involves dynamic interactions between dispatchers, natural elements, and operational technologies. Over the decades, these interactions have been profoundly transformed by the modernization of water transport technology and systems.

The operation and dispatching processes have shifted from decentralized, manual coordination to centralized, intelligent systems. Decentralized remote dispatching stations and specialized skills have gradually given way to centralized monitoring and digitized procedures, driven by the intertwined influences of technological innovations and systemic changes. Despite these developments, the importance of individual empirical skills remains significant.

This research specifically highlights the evolving role of the 'master' and explores the impact of technological changes on traditional expertise, alongside the strategies for self-adjustment and adaptation.

**Toll Road Construction and Yogyakarta Province's Efforts to Preserve Cultural Cosmological Symbolism – Agung Wicaksono & Jafar Suryomenggolo (Gadjah Mada University)**

This paper discusses toll road network development in the past two decades in Yogyakarta province, Indonesia, in the context of the transformation of urban infrastructure in middle income-countries' leapfrog strategy to energy transitions (Hetherington 2019). Building on qualitative semi-structured interviews with local population of Yogyakarta in 2024-2025, it examines how Yogyakarta as one of the historical cities of Indonesia tries to maintain its status as a special region distinguished by its rich tangible and intangible cultural heritage, despite the rising demand of transportation infrastructure in the pursuit of progress and at the same time, the need to manage its environmental impact.

Focusing on Yogyakarta's newest elevated ring road project, this paper shows that the project follows the national infrastructure development plans in the hope to improve regional market accessibility and industrial growth. Beyond this economic logic, the project also embodies cosmological symbolisms of the mountain (Mount Merapi) and the sea (Parangtritis beach). This paper presents preliminary findings that the construction of the elevated ring road project has generated ambivalence among local residents as the promise of trickle-down economic benefits remains uncertain while the preservation of cosmological symbolism is increasingly questioned.

**Session 2 Thursday 11<sup>th</sup> September, 9.30 – 11.00, HG F 26.3**

**Oodi: Oh, wow! How a library becomes a spectacular infrastructural promise – Alexa Färber (University of Vienna)**

Libraries are not merely places for solitary study; they are also infrastructures that facilitate the circulation of media—within urban library networks, across translocal networks, and through the digital provision of content.

This role of libraries in infrastructuring access to media comes with promises (cf. Anand et al. 2018) creating expectations, such as providing low-threshold access to education. However, these everyday promises and expectations tied to library infrastructures rarely become the subject of aesthetic appeal or symbolic capitalization. In contrast, individual buildings—often the central libraries within library networks—and their innovative spatial programs tend to attract significant attention, often extending far beyond their urban contexts.

This is exemplified by the new Oodi library building in Helsinki, which opened in 2018. In a remarkably short time, Oodi has become an "object of desire"

(Berlant 2011) not only for libraries but also for other cultural institutions, in their attempt to promote their proper matters of concern in local urban politics.

Using two examples from Vienna (the Public Library Network and a Museum Association), I will trace the translation of Helsinki's Central Library into the spectacular Icon "Oodi" and its transformation into a promise for local infrastructural concerns elsewhere. In doing so, I will analyze the materialities of these translations, as well as the institutional and urban-political expectations they generate.

This microanalysis of the discursive appropriations of a library infrastructure icon reveals less a process of hollowing out urban policy and more a demonstration of how institutional actors tactically navigate the promises of infrastructure. Nevertheless, this translation of infrastructure into promise is accompanied by a fragmentation of the infrastructural fabric.

**Memory Infrastructure as Public Relations: The role of the architectural field in legitimising political views on Memory Museums in South America** – Omar Andres Campos Rivera (University of Manchester)

State-promoted memory museums have been extensively used in the last decades in South America with multiple purposes. The official narrative is that those spaces are necessary to make memory part of the cultural framework of society and, in that way, avoid having to endure the repetition of traumatic events. Such task is assigned to architecture practices that engage their professional networks and communications media to validate such important work for society, by creating visual and linguistic tropes. But what happens to the other purposes that are at stake? The commodification of architecture and memory, the forced stabilisation of memory by political actors, dark tourism gentrification, the segregation of victims and civil society from memory process are also being validated in that way. In this context, this research looks at the use of memory museums as spectacle infrastructure with iconic elements to shape public opinions about a disruption in memory processes. The project looks at three national memory museums in Chile, Peru and Bogotá, developed between 2008-2019. They are evaluated with a framework of ASTS developed for museums to understand the dynamics among the architecture social network, the museums, and the political field in the process of memory in those countries. The main finding is that the commodification of architecture is instrumentalised by political elites to force their frames onto memory processes, using tools provided by the architectural field, such as visualisation and artistic discourse.

**Micro-Interventions for a gender equal city: Multimodal translation moments with urban infrastructures** – Judith Laister (University of Graz)

Around the world, gender-related micro-interventions are shaping urban infrastructure: Sidewalks are chalked with messages against catcalling and sexual harassment; house walls and fences bear feminist murals, often in battle with sexist graffiti; traffic lights shine with queer couples; streets are adapted as stages for performances against femicide; zebra crossings appear

in rainbow colours; electricity boxes bear LGBTQI+ stencils or lampposts provide space for Grrrls Power stickers. The presence of these visual, written or performative messages for a gender-equal society is always fragile, temporary and controversial. What these formally and thematically heterogeneous spatial practices have in common is a transmedial claiming space that uses urban infrastructure to translate the category of gender in a multimodal way and make it publicly negotiable. Beyond their visibility in the built urban infrastructure, these statements are inextricably linked to digital communication spaces, which simultaneously inspire, disseminate and perpetuate. With these platform-urbanistic practices, social actors inscribe themselves in the production of gender and enter into often controversial interactions with urban governance and users of urban and digital spaces. The paper focuses on this transmedial structure of mutual negotiations between gender and urban space through multifaceted micro-interventions on urban infrastructures. The presentation is intended as a collaborative workshop report on the activities of the research network nice\* (Network for gender equal micro Interventions in Cities and on Earth), which is dedicated to the survey, analysis, representation and creation of gender-related adaptations of urban infrastructure in cities around the world. It asks how they are perceived by different actors, inked to each other and what effects they have on the definition, presence and support of planetary gender equality.

### **Session 3 Thursday 11<sup>th</sup> September, 11.30 – 13.00, HG F 26.3**

#### **"Spectacle's" normative stake in digital infrastructure studies – Tyler Reigeluth (Institut Catholique de Lille)**

Critical perspectives around digital infrastructures' visibility move in two diverging but complementary directions: on the one hand, the claim is made that these infrastructures' lack of visibility impedes the development of "technical cultural" or democratic appropriation of digital technologies. The "anti-monumental monumentality" (S. Mattern) of ubiquitous computing infrastructures means that they recede from users' field of experience, thus depriving them of any meaningful cultural anchoring. On the other hand, the predominant design of digital technologies is regularly criticized for being a "spectacle" or "theatre" (M. McDonald), where infrastructural forms are "fetichized" (Kaïka and Swyngedouw), distracting us from the processes of maintenance (M. T. Young) and living labor involved. Here "spectacle" stands in post-Marxist fashion as a vector of alienation and illusion that would need to be overcome by active engagement rather than passive consumption.

In this contribution I would like to question the normative role "spectacle" plays within contemporary infrastructure studies debates, where increased visibility of digital infrastructures is seen as a prerequisite for fostering public and political engagement with technology, so long as it is not the spectacular (and thus alienating) kind of visibility. Building on approaches such as Jacques Rancière's and Barbara Carnevali's, I would like to suggest that, while these critiques are a necessary first step to re-politicizing the "appearingness" of digital infrastructures, they tend to reproduce the normative binaries they

presuppose. I reframe spectacle as constitutive of our political condition, which does not mean we cannot differentiate modes of spectacle that are more or less empowering.

### **Building Back Smarter: Interrogating Smart City Projects in Post-Conflict Contexts – Fabian Hofmann (ETH Zurich)**

Smart cities have ceased to be an imaginary solely confined to the corporate domain. Instead, their perceived inevitability has slowly crept into international policy circles, remaking the grammar of post-conflict reconstruction and peacebuilding policy along the way. Today, the World Bank and the United Nations are funding smart city projects to support the post-conflict recovery in Azerbaijan, drive the urban regeneration in Sarajevo, and rebuild the Ukrainian cities of Kharkiv and Mykolaiv. However, the underlying visions of desirable futures that animate these internationally funded smart infrastructure projects and the sense of futurity they express have received scant scholarly attention so far. Against this background, this article introduces the sociotechnical imaginary of “building back smarter” and unpacks the infrastructural politics and poetics it brings into play. “Building back smarter” casts post-conflict regeneration and urban modernization as attainable through smart city infrastructures that enable crowd-sourcing, policy experimentation, and urban resilience. Through a discourse-ethnographic analysis, I trace how this imaginary is collectively held across international policy documents, institutionally stabilized through transnational smart city alliances, and publicly performed through best practice showcases. In conversation with STS, Urban Studies, and International Relations, I seek to explicate what is at stake in this sociotechnical imaginary of “building back smarter:” it forecloses alternative, more pluriversal post-conflict futures through an infrastructural prefiguration that operates both in the political and aesthetic register. Overall, this article advances the study of post-conflict reconstruction in increasingly digitalized global politics by bringing together Smart City scholarship and International Relations, two literatures that have largely evolved in parallel and without significant cross-fertilization.

### **Traces of Hope: The Affective Life of an Abandoned Railway at the Armenian Border with Turkey – Manon Borel (University of Bern)**

This paper explores the abandoned railway between Armenia and Turkey as an infrastructural remnant where pasts, presents, and futures intersect. Its physical presence continues to inscribe a history of dis/connectivity into the landscape, while also evoking imaginations of movement, border opening, and prosperity. As a site of suspended futures, the railway is a trace of the past and simultaneously maps imaginations and hopes for the future.

Once part of a broader Soviet network of connectivity, the railway today marks geopolitical deadlock and economic slowdown in Armenia. The last closed border of the former Soviet Union is guarded by Russian and Armenian forces and fenced off on the Armenian side. The border’s closure materializes the

unresolved diplomatic conflict over the recognition of the Armenian Genocide and the protracted conflict between Armenia and Azerbaijan, Turkey's ally, over Nagorno-Karabakh.

Drawing on long-term ethnographic fieldwork along the border, this paper explores how residents engage affectively with the railway. I look at the railway as a form of infrastructural poetics: it enchants and unsettles, memorializes and projects, becoming both a specter of the past and a spectacle of future potentiality. Through this lens, the paper sheds light on how abandoned infrastructures continue to shape the emotional and political life in a geopolitically tense environment.

### **3r: Ecological Governance of Digitalization and Struggles over a Public Problem**

**Open Panel, Friday 12<sup>th</sup> September, 11.30 – 13.00 & 14.00 – 15.30, HG E 33.3**  
**Convenors:** Leo Girard, Nicolas Baya-Laffite

*Digitalization has been widely framed as a solution to the environmental crisis, fostering a political consensus that reconciled digital competitiveness and socio-ecological sustainability. While this framing remains influential, its promises appear increasingly tenuous in the face of mounting ecological concerns. Critics seeking to expose these tensions long struggled to gain traction, often confined to activist or specialized spaces. The rapid expansion of artificial intelligence and its controversies has unsettled this status quo, revealing a contested field where competing actors seek to redefine the relationship between ecology and digital technologies.*

*This panel welcomes empirical research papers on historical and contemporary struggles over the ecological governance of digitalization, addressing questions such as:*

- *How have political values shaped the governance of digital technologies in relation to environmental concerns?*
- *Who are the key actors involved, and what strategies and instruments do they deploy?*
- *How do other political concerns—surveillance, geopolitical asymmetries, energy transitions, socio-economic inequalities—intersect with ecological governance?*
- *How do these struggles unfold across AI, data centers, submarine cables, teleworking, IoT, blockchain, and other digital infrastructures?*

**Contributions:**

**Session 1 Friday 12<sup>th</sup> September, 11.30 – 13.00**

**Infrastructuring a “Twin Transition”? Sociotechnical Promises, Conflicts, and Agencements in the Digitalisation of Sustainability –**  
Nicolas Baya-Laffite (University of Geneva)

The idea of a “twin transition” – aligning digital and ecological transformations – has gained prominence in European and international policy discourses. Digital technologies are framed as both solutions to environmental crises and objects that must themselves become sustainable. Yet this apparent synergy conceals deep tensions: between technological acceleration and ecological constraints, between global strategies and local frictions, and between the promise of optimisation and the Sisyphean task of sectoral impact assessments and sustainability valuation.

This presentation outlines the INFRA-TWINNING research programme, with a focus on the state of the art at its origin, as well as the problematisations and methods it proposes. The project examines how sociotechnical futures are assembled, contested, and negotiated through digital infrastructures situated at the intersection of environmental and technological governance.

In this context, the paper investigates how the digital–sustainability nexus is materially enacted and politically contested through the deployment of infrastructures such as datacenters, 5G networks, and digital agriculture technologies. These cases, studied in Switzerland and beyond, show that what is sought through “twinning” is not a unified or coherent process, but a fragmented and conflictual one, shaped by diverse institutional arrangements, environmental trade-offs, and territorial struggles.

Building on STS research on sociotechnical promises, infrastructures, and conflictual agencements, the paper contributes to empirically studying how the future-oriented policy narrative of the twin transition translates into concrete infrastructures and valuation practices. It asks how sustainability is defined, measured, and disputed in the development of digital infrastructures, and how conflicts over land use, energy, data, and legitimacy shape these transformations. The cases highlight tensions between standardised sustainability metrics and localised forms of value, and between corporate-led innovation and demands for democratic governance of territories under the pressure of digitalisation.

**Mapping the discursive landscapes of the twin-transition. Evidence from data centers’ related narratives in scientific research and the media – Dr Pierre Benz (University of Geneva)**

This contribution aims to understand how a specific infrastructure—data centers—intersects with ecological governance. Data centers have become critical infrastructures in the digitalization of societies and territories, through their role in data storage, processing, and security. Yet their development is far from environmentally neutral. Studying data centers offers a crucial entry point to analyze tensions between digital technologies and sustainability. Our strategy is to focus on the discourses surrounding data centers, with the aim of mapping their trajectories across thematic, public, and conceptual spaces, which are themselves populated by multiple other concerns. Through a longitudinal analysis of definitions and associations within broader corpora,

we seek to understand how environmental concerns emerge, in what forms, and in relation to which other themes.

What is the genealogy of the narratives around data centers and their development? Are these narratives coherent, competing, or disparate? We follow recent attempts to define the ‘twin transition’ through discourse analysis (e.g., of policy documents, patents, and scientific literature), and contribute to clarifying its contours.

To answer these questions, we construct and compare two corpora—scientific publications and media articles. To analyze them, we rely on topic modeling techniques. Deep learning-based methods such as BERTopic capture semantic relations between documents by leveraging embeddings to infer topics and their associations. In parallel, probabilistic models like latent Dirichlet allocation (LDA) highlight how terms are distributed across and within documents, shedding light on narrative structures. This dual approach enables us to explore the discursive landscapes around the implementation and development of datacenters as crucial elements of the digitalization process and its variable inscription in ecological governance. Through this example we aim to shed light on the broader yet fuzzy concept of ‘twin transition.’

**Persuasive Imaginaries: establishing sustainable AI in words and deeds**  
– Kathrin Lutz (Johannes Gutenberg University Mainz)

The role that AI can play in aligning society more closely with the guiding principle of sustainability in the future is a matter of debate. While AI has the potential to increase efficiency and help forecasting consequences of the climate change, it also is resource intensive and its application could have unintended side effects. The European Commission, among others, has nonetheless brought forward the notion of sustainable AI and is trying to convince states and the industry to follow along.

In this presentation I offer a new perspective on the negotiation process around sustainability and its re-definition through its combination with digitalization and particular AI. I argue that it is in organizations, through imaginaries of the present future, that powerful decisions for social development are prepared, respecified and distributed. This “twin transition” is constructed in sociotechnical imaginaries of the future, and distributed through persuasion by states, among others.

Government research funding is a good example for this argument. It creates incentives for cooperations between business organizations and research institutions and at the same time enables the implementation of politically influenced trajectories of future developments. In this case it establishes and legitimizes the imagination of sustainable AI, to translate the theoretical notion into tangible applications. Based on the analysis of the call for research "AI lighthouses for the environment, climate, nature and resources" I will show the persuasion work by the German state to establish the concept of sustainable AI and to promote its implementation in tangible applications.

## **Digital/AI capitalism and degrowth -problematizing the formulation of democratic and environmentally sustainable digital economy approaches - Dimitris Boucas**

The consolidation of digital capitalism creates the need for new understandings of the intricate relationship between developments in digital technologies, data power, artificial intelligence, and economic models. These should expose the environmental tensions inherent in the relationship between the putative capacity of AI to improve economic processes and reduce their environmental impact, while this capacity rests on data growth, storage, and processing, which itself is detrimental to the environment.

Current discussions, not least at the UN level, focus on sustainable AI and digital technologies – understanding their life cycles and using them in alternative ways for a green transition. This paper claims that these directions are not sufficient, for they challenge neither the political economy of digital technologies and their aggressive monopoly character, nor the high consumption lifestyle to which digital technologies contribute and which AI will enhance further. Ultimately, these are techno-fix solutions which will exacerbate the environmental crisis.

Alternatives to the current monopolistic digital economy have recently met economic thinking around degrowth (Saito). However, there currently remains a gap in the debate between these alternatives to profit-making digital economy models and the place of degrowth ideas in AI technological development.

Drawing on conceptualisations around the notions of “digital degrowth”, the paper argues for an alternative conceptualisation and governance of the digital capitalist AI-based economy; one which considers the ideas of degrowth and technological development models which are more attuned with peer-production, non-profit goals, and environmental considerations. It seeks to provide a roadmap of transformation towards a more competitive and less oligopolistic digital technology/AI market, with controlled data accumulation and processing, in accordance with societal needs and respect for the environment.

## **A social practice perspective on the ecological (self-) governance of everyday digitalization – Berit Wolff (Karlsruhe Institute of Technology)**

The environmental toll of data centers, hardware production and AI systems challenges the narrative of digital technologies as a solution to ecological problems and reveals profound contradictions. To investigate how ecological concerns surrounding digital technologies and their ubiquitous use are (re)produced, contested and transformed in everyday life, this project adopts a user-centered perspective.

Grounded in science and technology studies (STS) and social practice theory, this research situates the ecological impacts of everyday ICT use in a broader

context of the governance of digitalization. It argues that digital consumption is shaped by socio-material arrangements that normalize and stabilize certain behaviours, while rendering others unthinkable or impractical. From this perspective, ecological governance is not just about regulating emissions or optimizing energy consumption through policies, but about intervening in the very practices through which the digital and its impact are enacted, while at the same time acknowledging that it is not merely a matter of individual choice.

This paper outlines the conceptual approach for the upcoming empirical work through semi-structured interviews and real-world experiments. In these interventions, participants will probe sustainable strategies and their practicability (e.g. digital emission tracking, usage restrictions and configuration changes). This form of 'self-governance' serves less as a test for behavioral change and more as an epistemic tool to understand the underlying socio-material dimensions of (un)sustainable digital practices from a bottom-up perspective. In doing so, this research attempts to identify possible starting points which can be leveraged for an ecological (self)governance of digitalization, e.g. through digital sufficiency.

## **Session 2 Friday 12<sup>th</sup> September, 11.30 – 13.00 & 14.00 – 15.30**

### **Valuing sustainability in the datacenter market: moral entrepreneurship and the politics of datacenter ecologies – Léo Girard (University of Geneva)**

Datacenters, now celebrated as core investment sites for the digitalization, smartification, and optimization of societal sectors through artificial intelligence, are highly material infrastructures whose rapid expansion raises significant environmental concerns. Managing datacenters sustainably is therefore a cornerstone of any attempt to align digital and ecological transitions. This paper examines the contested ecological governance of digitalization through the case of a new datacenter promoted as a breakthrough in sustainability.

The dominant “hyperscaler” model — characterized by large, secretive facilities — prioritizes internal energy efficiency while often neglecting broader ecological concerns and public accountability. Drawing on fieldwork, interviews, and analysis of documents and media coverage, this paper investigates how a new datacenter challenges standard valuation metrics in the sector by proposing a localized sustainability referential. Unlike hyperscalers, it embraces radical transparency by publishing open-source architectural plans and openly acknowledging its environmental footprint. Its integration of heat reuse —channeling server-generated heat to warm nearby residential buildings—illustrates a shift from isolated efficiency gains to principles of industrial ecology.

This case is interpreted through the lens of “moral entrepreneurship” (Becker, 1963), understood as the process by which actors seek to create social norms by defining certain practices as problematic and promoting new moral

standards. As a moral entrepreneur, the datacenter's operator uses sustainability as both an ethical and strategic positioning, advocating for alternative metrics that privilege local environmental integration. This approach contests dominant framings of digitalization as inherently green and exposes the political struggles over who defines "sustainability" in digital infrastructures.

Thereby the paper contributes to STS scholarship on how political values and competing rationalities—economic versus moral—shape the governance of (digital) technologies and infrastructures. It highlights the emergence of new actors and instruments, such as open-source transparency and integrated heat reuse, that seek to redefine the relationship between digitalization and ecology.

### **Can IT Enable Sustainability? Public Controversies and the Icelandic Data Center Industrial Complex – Felipe Silva (IT University Copenhagen)**

Iceland ranks among the nations with the highest per capita energy production, with nearly all of it derived from renewable sources, primarily hydro and geothermal power. For decades, energy has played a pivotal role in sustaining Iceland's welfare state, underpinned by a "modern" and "sustainable" power grid. This energy—through market strategies from both private and public sectors—has drawn energy-intensive industries such as aluminum smelting and, more recently, data centers seeking cheap, reliable, and abundant low-carbon electricity. Drawing on ethnographic research among decision-makers—including data center managers, public authorities—and analysis of documents from Iceland's Energy Authority, I will examine how the growth of digital infrastructures in the country, framed within sustainable development discourse, has sparked public debates. These controversies range from cryptocurrency mining to the more recent expansion of AI workloads, centering on energy supply and environmental concerns. A shift is underway in the perception of Iceland's energy surplus due to growing supply constraints, prompting public scrutiny over what this energy is truly fueling. I will explore how these debates reflect a carbon-centric view of sustainability and critique regulatory frameworks that reduce sustainability to report-making and quantitative metrics. I argue that STS perspectives on the ecological governance of digital infrastructures can enrich these discussions by, at the very least, proposing new ways to assess their environmental consequences.

### **Ecological governance and 5G: disputed conciliation, democratic tensions – Chloé de Morawitz**

In Switzerland, the digitalization of various sectors includes the adoption of a new mobile network whose performance values embody a stage collectively pursued by different groups of actors. These values, rooted in a form of sociotechnical imaginary (Jasanoff, 2015), are integrated into a strategic ambition to manage environmental issues through the lens of information systems across most sectors and areas of activity. In the public arena,

however, these approaches to solving environmental problems through digital technology have been challenged by citizens in recent years. The climatic and environmental implications of 5G, combined with the « pervasive » (Boullier, 2019, p.34) digitalization it brings, have become one of the points of contention for these groups.

Through a documentary analysis conducted for my Master's dissertation, I sought to describe these tensions by analysing the discourses and arguments (Chateauraynaud, 2011) deployed across various arenas by a range of actors involved in the governance of digital infrastructures and its broader context in Switzerland. The entanglement of digitalization and the environmental crisis sheds light on the political and societal stakes involved in the choices made to reconcile these two forms of "transition."

This contribution explores the ecological governance of the digital age through the lens of the climate and environmental implications of 5G deployment. It examines how conflicting voices attempt to gain inclusion in the decision-making process, thereby exposing certain democratic limitations. The lack of a democratic framework for technical decision-making in technological infrastructure directly influences the direction of this governance.

**Governing agrivoltaics in the twin transition: cantonal dynamics of energy-food integration in Switzerland – Samuel Fabbi, Olivier Edjeryan**  
(FiBL Research Institute of Organic Agriculture)

The twin transition of digitalisation and decarbonisation is reshaping imaginaries of how land should be valued and governed. Agrivoltaics crystallises this by promising dual use of farmland: photovoltaic arrays linked to sensor-driven control systems are expected to optimise both kilowatt-hours and crop yields, transforming fields into high-tech "energy-food" platforms. Yet this overlapping promise generates a governance puzzle: does agrivoltaics belong to agriculture, to the energy sector, or to the expanding domain of digital services, and who decides where it sits? A second tension stems from the policy frames that compete to steer it: renewable-energy and food policies often advance different metrics, timelines and governance logics.

The paper draws on fieldwork in French-speaking Switzerland within FiBL's AgriSolarForschung project. The study combines a literature review, fifteen open-ended interviews, and observations at pilot sites.

Results reveal that controversies spill over between energy and food arenas, redistributing authority over land-use decisions and redefining what counts as legitimate evidence, whether yield data, farmers' incomes or landscape-quality assessments. Local specificities feed back into permitting rules and subsidy schemes, creating uneven pathways for deployment.

By mapping these intersecting controversies and cantonal disparities, the contribution addresses the panel's focus on the conflictual governance of ecological digitalisation. It positions agrivoltaics as a boundary object through which energy and food policies, land-use regimes and data infrastructures are continually co-negotiated, and argues that treating it as a site of ongoing negotiation (rather than a purely technical optimisation problem) opens the

door to more adaptive, transparent and democratically legitimate innovation governance.

**Reconfiguring trust in digital food traceability systems: subjectivities, control, and ecological promises** - Olivier Ejderyan, Cristina Laurenti (Research Institute of Organic Agriculture FiBL)

Digital traceability systems are increasingly positioned as instruments for transparency, efficiency, and ecological responsibility in agri-food supply chains. This contribution draws on fieldwork within two Horizon Europe funded projects, WATSON and ATTESTED. It examines how trust is not simply supported by these systems but reconfigured through them.

WATSON develops blockchain- and DNA-based technology to secure traceability in long, industrial food chains, building trust through immutability, automation, and verifiability. ATTESTED, in contrast, co-designs low-tech, open-source solutions with small-scale producers to sustain trust across looser, more relational chains. While both systems aim to “hold together” dispersed networks and collectives, they enact different logics: one of control and certification, the other of accessibility and situated legibility.

Using Guattari’s conceptual pair assemblage/equipment, we analyse how these systems not only stabilise flows of goods and data, but also participate in the production of subjectivities shaping who is positioned to trust, to be trusted, and under what conditions. In particular, we explore the subjugating effect of the promise of “trustless trust” that reconfigures forms of engagement, responsibility, and exclusion in supply chains and what this implies regarding the agri-food system transformation.

Our contribution shows how the role assigned to trust in the growing framing of digital traceability as a driver of agri-food system transformation constitutes a contested terrain where technological configurations, value claims, and political subjectivities co-produce one another. It invites us to ask not only how trust is built or replaced, but how it is mobilised to hold together specific visions of sustainability.

### **3q: Hybridising Environmentality: Re/configuring Environmental Infrastructures and their Imaginaries**

**Open Panel, Friday 12<sup>th</sup> September, 16.00 – 17.30, HG F 26.3**

**Convenors:** Cristina Cochior, Guillemette Legrand, Helen V. Pritchard

*This panel inquires into the increasing reliance of environmentality on Big Tech infrastructure and the technical hybridisation of environmental computation with Artificial Intelligence (AI) in contexts such as Earth monitoring, modelling and policing. The promises and imaginaries of this integration of AI within existing environmental infrastructures raises questions about their technical but also economic, political, and material hybridisation. The development of high-resolution, universalist and fast-paced models toward the so-called green transition reconfigures the dynamics and influence of the private sector and Big Tech within*

*environmentality and its imaginaries. In this panel, we are interested in investigating how environmentality is reframed through its increasing hybridisation with private interests, automation, AI imaginaries and anticipatory techno-solutionism. (Interests that often seek to obscure more situated or community based proposals). We invite papers that look at how existing practices that visualise, measure or organise our governance of environments—are being configured by this so-called "hybridity".*

*This panel is interested in projects that document this ongoing hybridisation and also counter and propose other possible renders of new forms of environmentality, including community servers, permacomputing, and minor technologies.*

*In this panel, we would like to discuss topics related but not limited to the following:*

- *The involvement and impact of Big Tech on environmental research and the green transition*
- *Critical experimentation with hybrid models and AI/ML pipelines in environmental and climate research*
- *Other forms of environmental computation to counter shoved-AI imaginary*
- *Community practices and grassroots governances configuring digital infrastructures otherwise*

## **Contributions**

### **Green transition and resource frontiers invisibilization: Rethinking the Valle di Lei dam as**

**envirotechnical device** – Stella De Luca & Isabella Traeger (Politecnico di Milano)

Drawing from STS, Border Studies and Urban Political Ecology, this paper investigates the Valle di Lei dam – the centerpiece of a cross-border hydroelectric system unfolding along the Italo-Swiss Alpine border – as a site of infrastructural and political hybridity and experimentation. It frames the dam as an envirotechnical device at the center of deeply etched reterritorialization processes, embedding forms of extended urbanization into a predominantly rural and marginal(ized) alpine context. The dam's construction radically reconfigured the web of multi-scalar power relations, producing and entrenching asymmetric interdependences among the diverse network of actors and actants. It acted as both kaleidoscope and catalyst, making national security concerns, traditional transhumance practices, and energy imperatives collided, leading notably to the reconfiguration of the border's location and enactment. These dynamics acquire renewed urgency within the framework of Switzerland's Energy Strategy 2050, which aims to transition towards renewable energy as nuclear plants are phased out, and assert the nation's role as Europe's green battery. As 80-year hydropower concessions, like the one encompassing the Valle di Lei, approach expiration, the materialdiscursive construction of hydroelectric infrastructure (both existing and proposed) is poised to underpin local and national debate. In a sector already highly automated and reliant on computational forecasting, this paper takes the Valle di Lei as a starting point to critically reflect on the invisibilizing effect that dominant techno-solutionist narratives centered on the green transition can have on resources frontiers, reinforcing marginalization processes and failing to problematize hegemonic frameworks. Borderlands,

though, are intrinsically spaces of irreducible plurality, friction and encounter, which resist the univocal narrative of Western progress. As such, the Valle di Lei emerges as a generative example to advocate for a situated, territorial reading of hydroelectric infrastructure within uncertainty, drawing on feminist and postcolonial perspectives. Based on interviews, fieldwork and archival research, the article proposes a reading attentive to the entanglements of (more-than-) human agencies, everydayness, and resistant imaginaries and practices of 'staying with the trouble'.

### **Hybridity and fragmentation at the peripheries of digital infrastructures –**

Cristina Lavinia Cochior & Helen V. Pritchard (Critical Media Lab, IXDM, Basel Academy of Arts and Design FHNW)

This paper looks at how infrastructural scale shapes the epistemic valuations attached to "hybridity" and "fragmentation" in relation to the climate polycrisis. While large-scale Big Tech infrastructures present themselves as stable, coherent, and finished, small-scale grassroots digital infrastructures embrace situated and ad hoc practices.

This paper argues that this asymmetry does not stem from intrinsic qualities, but from divergent intentions to conceal or reveal infrastructural practices. We argue that large-scale infrastructures routinely incorporate bricolage, and improvisation, features typical of experimental practice, yet these are rendered invisible through discursive techniques that produce an illusion of unity and permanence. By contrast, the experimental and patchwork qualities of small-scale digital infrastructures, such as community run servers, are hypervisible. Fragmentation in small-scale infrastructure might be understood as a form of hybridity; not a failure to cohere, but a situatedness of technologies, knowledges, and temporalities. Yet because they don't fit dominant infrastructural practices and aesthetics or models of scale, they're often rendered marginal or "inefficient" and generally undervalued in climate policy and governance—by corporate and state actors.

How is infrastructural legitimacy performed and scaled, and how might fragmentation be reimagined as a site of possibility? Through disobedient policy analysis and practice based research our paper proposes a consideration of small-scale practices not as peripheral or incomplete versions of large-scale models, but as complex sites of attunement that challenge linear narratives of infrastructural progress and how we imagine, build, and justify infrastructural responses to ecological breakdown.

### **Digital Twin Engine: synthetic imaginaries of Earth -** Guillemette Legrand & Joan Llort (Fachhochschule Nordwestschweiz)

This paper discusses the shifting techno-politics of climate modelling practices through the increasing integration of AI processes into traditional (physical) models. This integration results in so-called hybrid models, or even in some cases, in supplanting climate models with deep learning weather and climate algorithms. We propose to look at this shift through the case of the Digital Twin Engine, an interface described as the orchestrator of the digital twins,

configuring a new form of data handling and interactivity within the European project Destination Earth. We explore the computational modalities through which the Earth's twin formulates and anticipates climate imaginaries through asking: What are the limitations of the Earth's twinning? Are digital twins more clones or counterfeits? How does the Digital Twin Engine 'twins', what is excluded or misrepresented in this process, and how is this communicated back to the ones operating it? We will document the limitations of 'twinning' the Earth in the context of the Digital Twin Engine, through mapping its reliance on synthetic data to train AI algorithms, the mimicking of existing large climate models with their uncertainties, and finally, the gamification of Earth's simulation through an engine interface. This paper documents but also speculates about the socio-technical imaginaries of the Digital Twin Engine in the anticipation of its full-scale launch.

### **AI, Myth, Visual Politics: The Influence of Big Tech on Refik Anadol's Large Nature Model - Larissa Lenze (Universität Paderborn)**

The project Large Nature Model by Turkish-American media artist Refik Anadol exemplifies an aesthetic and epistemic shift in the relationship between humans, nature, and technology. The work transforms vast amounts of publicly accessible environmental and satellite data into often immersive, visually spectacular representations of nature – enabled through proprietary AI infrastructures. Within these visual worlds, artificial intelligence is staged as a seemingly neutral observer, while the influence of the human becomes aesthetically unbounded or effectively erased.

This paper analyzes the visual and discursive strategies through which Large Nature Model produces and naturalizes specific imaginaries of human-technology-nature relations. Particular attention is given to the role of private-sector actors: The data processing underlying the project takes place via infrastructures operated by major technology corporations with whom Anadol closely collaborates. Drawing on PR materials released by the artist's studio, media coverage, and the integration of Anadol's work into the corporate self-representation of these companies, the paper interrogates the extent to which the project reproduces posthumanist, anthropocentric, and techno-solutionist imaginaries – myths that have long shaped the ideology of Big Tech and Silicon Valley.

In a second step, these aesthetic codings are situated within theoretical frameworks from Science and Technology Studies – particularly concepts of environmentality, sociotechnical imaginaries, and affective infrastructures – to illuminate the political and epistemological dimensions of AI-generated nature imagery.

The analysis aims to show how Refik Anadol's Large Nature Model functions as an aesthetic nexus in which media-aesthetic mythologies, economic infrastructures, and sociotechnical visions of the future are intertwined under the sign of Big Tech.

# **Holding Together Disciplines and Differences**

## **1a: Reading Texts Together**

**Experimental Format, Wednesday 10<sup>th</sup> September, 12.00 – 13.30, KOL-G-220**

**Convenors:** Sara Kinell, Margarita Boenig-Liptsin

*Alternative! Alternative! Read all about it at the ZSTS Reading Group during STS-CH — Join us!*

*ZSTS, a reading group for STS students and researchers in the Zurich area, welcomes STS-CH conference participants to join us in reading and discussing two pre-circulated texts on the topic of alternatives in STS scholarship.*

*During the session "Reading Texts Together," we aim to moderate a discussion that opens for a multitude of perspectives on 'alternatives' as critical and constructive interventions in the context of contemporary conflicts, tensions, and uncertainties.*

*We invite you to join us in this endeavor and to indicate in this form (<https://forms.gle/KCg6JBysbDV59FWB6>) which text you would prefer to read and discuss with conference participants at STS-CH in September, 2025.*

*The session will be moderated on behalf of ZSTS by Sara Kinell and Margo Boenig-Liptsin.*

## **2a: Holding Things Together at UZH and ETH: The Doctoral Program History of Knowledge**

**Open Panel, Thursday 11<sup>th</sup> September, 14.30 – 16.00, HG D 5.1**

**Convenors:** Leila V. Girschweiler

*From 2005 to 2022 the Center "History of Knowledge" (ZGW) represented a leading scientific nucleus co-organized by the University of Zurich and ETH. Its goal was to coordinate research and teaching on modern knowledge systems and knowledge societies. Although the ZGW has ceased to exist, a joint doctoral program continues to bring together young researchers interested in theories and methodologies of history of knowledge. Faced with the reality that many members of the program have moved away from studying traditional sites and conceptualizations of knowledge in their research, we ask ourselves: What connects us?*

*The panel will give insights into the processes of change that the doctoral program's members are currently navigating. We take the STS-CH conference as an opportunity to reflect on our past, presents and future. As a group of historians that study multinational corporations, cows' health, invasive species in the anthropocene, French-Algerian vineyards, the history of AI, and homosexuality in Zürich, we ask: Who are we? And who do we want to be? What are the legacies of ZGW? What do we hold on to and why? What is the history of knowledge for us today?*

## Contributions

**Tracing Information Flows at Corporate Archives. A Business History Perspective on Knowledge** – Leila V. Girschweiler (University of Zurich)

**A class struggle in mathematics? Disputes in German practical geometry around 1600** – Damian Moosbrugger (ETH)

**Zwischen Ästhetik und Kybernetik: Naturwissenschaftliche Problematisierungen des Landschaftswandels in den 1970er- und 1980er-Jahren** – Louis Widmer (University of Zurich)

**The Hegemony of Anthropocentric Knowledge – A Biocentric Critique** – Camille Schneiter (University of Zurich)

## **5c: Supporting Capacity for Critique by Teaching Science-Technology-Society (S-T-S) in STEM fields?**

**Workshop, Wednesday 10<sup>th</sup> September, 14.00 – 15.30, KOL-G-222**

**Convenors:** Lisa Sigl, Bianca Vienni Baptista, Maximilian Fochler

*STS scholars are increasingly involved in teaching courses about societal and environmental issues in relation to science and technology within STEM fields. This opens opportunities for supporting capacities of critique in technoscientific communities but has also met the worry that such teaching, is a way of importing critique without embedding it in respective cultures of research and communities of practice. In this panel, we want to exchange on practices and conditions that support capacity for critique in teaching in such embedded ways. Discussion of these issues seems particularly urgent as normative underpinnings of some tech communities seem to be changing (e.g., tech bro culture, dismantling of DEI and Ethics programs), and populist policy-makers calling for restricting teaching content (US) and blacklisting teachers (AT), therewith articulating aims of narrowing down resources for critique in higher education. This interactive session consists of semi-structured group discussions based on vignettes addressing normative issues in STS teaching. Participants will elaborate on their own experiences in facing these challenges and in understanding how the kinds of critique STS has to offer can be brought to teaching in STEM fields.*

*We ask how STS resources can be transformative of how normative issues are addressed in STEM fields and support capacities of imagining alternative futures. We also ask what "supporting critique" can legitimately mean in teaching contexts: Does it mean to enable more conscious decisions on value-based aspects in science and technology, or also to normatively argue for values that we perceive as emancipatory?*

## **5d: Intersections in Inter- and Transdisciplinary Research: Mapping Cultures, Practices and Policies**

**Workshop, Thursday 11th September, 9.30 – 11.00, HG F 26.5**

**Convenors:** Bianca Vienni-Baptista, Helena Winiger, Anne-Sophie Schaltegger

*Interdisciplinary and transdisciplinary (ITD) research are central to address current societal and sustainability challenges. However, their potential is often not fully acknowledged and realized by research organizations, funders or policymakers. One way to address this impasse is by advancing the conceptual and methodological foundations for investigating ITD, and their intersections with cultures, practices and policies. The concept of intersection is conceived as a triad to refer to forms of cultural meaning that emphasise how humans and non-humans are partially connected or kept apart by parameters of belonging, difference and identity. By elaborating on this concept, we seek to enhance our understanding of ITD research and expand their potential to address societal and sustainability challenges.*

*In this workshop participants will explore and test the concept of intersections as a methodological triad for investigating collaborative research spaces. The workshop will offer a hands-on setting to map an interdisciplinary or transdisciplinary problem space while offering a forum to reflect on participants experiences in relation to cultures of collaboration. The workshop is organised in three moments: (i) brief impulse by the convenors; (ii) individual and collective mapping participants' experience with an analytical tool; and (iii) problematisation and refinement of the tool to re-think the intersections in inter- and transdisciplinary collaborations.*

## **4b: Navigating Togetherness: Stakeholder Engagement and Reflexive Practices in Technology Assessment**

**Roundtable, Thursday 11<sup>th</sup> September, 11.30 – 13.00, HG F 26.5**

**Convenors:** Janine Gondolf, Sophie Kuppler, Marius Albiez, Christopher Coenen, Kirsten Gaber, Stefanie Enderle

*In response to multiple crises and uncertain futures, parts of science and technology studies (STS) attempt to imagine and create desirable futures through collective efforts and interdisciplinary perspectives. Researchers and others aim for a more just and inclusive world through collaborative programs, public engagement, research, and transdisciplinary ventures.*

*Like others in STS, technology assessment (TA) signifies an integrative practice, encompassing critical examination, evaluation, communication, and co-design. It aims to bridge the gap between scientific advancements and societal needs by involving diverse stakeholders, including policymakers, industry representatives, and the public in responsible decision-making processes. While many concepts and guidelines on stakeholder engagement exist, in real life this process is seldom straightforward and clear-cut.*

*With this expert panel, we invite disputants to join an open debate on practices, challenges, and critiques of the concept of "stakeholder" in research projects. We aim to foster exchange and enable systematization, which may interest those engaged in stakeholder activities and their study.*

*We invite rethinking the following questions:*

- *How to navigate stakeholder identification and selection in research processes to ensure inclusive and impactful outcomes?*
- *How can our joint experience contribute to understanding and mitigating polarization?*
- *Does the role of togetherness, expectations, and demands need to be revised? If so, how?*
- *How can shared knowledge and mutual recognition be fostered to navigate contemporary controversies and build a more cohesive and resilient society?*

*The goal of this panel is to structure the exchange of ideas and, optionally, to develop a position paper that synthesizes the insights gained.*

## **Contributions:**

### **Addressing Stakeholders, Solutions and Conditions Together for Formulating a Gradual Transition Process to Circular Economy – Kaya Swann (Istanbul Technical University)**

The pollution caused by single-use plastic (SUP) products is a global contemporary problem. Various solutions to tackle single-use plastic waste pollution has been proposed and implemented, such as recycling, biodegradable alternatives, and reusable packaging systems. However, despite these mitigation strategies, an effective transition to circular economy could be challenging, and even controversial. This could be caused by the contexts and conditions of the main stakeholders, which includes brands, suppliers, producers, consumers, waste-managers and policy makers. These conditions and contexts could be economy, hygiene and usability-related, and could influence the actions and decisions of multiple stakeholders simultaneously. For example, in the case of reusable packaging systems, the hygiene factor could deter consumers and cause extra costs for brands and suppliers. And due to other similar conditions, the solutions could not become effective and/or in widespread use globally. Technology Assessment (TA), aims to critically evaluate and co-design scientific and technological advancements along with their social aspects. And when the challenges of transitioning to circular economy in SUP usage is considered, analyzing various solutions and stakeholders together is essential. Therefore TA could be helpful to identify and assess the contexts and conditions of the stakeholders related to the solutions. Such assessments could reveal the expectations, concerns and needs of the stakeholders and enable to formulate a shared knowledge for stakeholders regarding various solutions and the conditions. Afterwards, applying solutions according to the conditions could outline and initiate a gradual transition process to circular economy in SUP usage and management with all stakeholders together.

**“Keep an eye on workers’ happiness!”: A transdisciplinary approach to social impact assessment of new technologies in architecture, engineering, and construction** – Sihui Wu, Kim N. Helmersen & Gudela Grote (ETH Zurich)

The architecture, engineering, and construction (AEC) sector is transforming through technologies such as advanced software, artificial intelligence, and robotics. However, social implications of these technologies, particularly their impact on job satisfaction in automated work environments, remain underexplored. Addressing this issue, prospective work design promotes integrating work characteristics such as autonomy and skill variety early in the development and implementation of new technologies.

This paper presents BuildWork, an educational game designed to support technology designers and implementers in applying work design principles to automation decisions. Developed through pilot sessions with industry practitioners, the game was evaluated and refined based on participants’ perceived learnings. By offering a practical tool that encourages a collaborative approach and impact-aware mindsets to innovation, the study contributes to ongoing discussions in science and technology studies (STS) around action-driven critique, suggesting that critique has, in fact, not run out of steam.

The paper also aims to unlock transdisciplinary knowledge for technology design and understand barriers to transdisciplinarity in the AEC sector. It reflects on the iterative research process, arguing that institutional expectations embedded in the organization of science-society interfaces—such as viewing researchers as entrepreneurs through spin-offs or partnership events—hinder genuine stakeholder involvement. These expectations often prevent industry participants from co-defining research problems or feeling a sense of ownership over the research and its outcomes.

### **3m: Subjects that cross disciplines**

**Open Panel, Thursday 11<sup>th</sup> September, 14.30 – 16.00, HG F 26.1**

**Convenors:** Jonas Köppel, Felipe Fernández

*STS is about subjecting scientific institutions and practices to scientific study. This makes the field both inherently reflexive and interdisciplinary, as people practice science from within different institutions. In this panel we are interested in the dialogues emerging between these people. In particular, we want to focus on reflections and conversations around research subjects that are shared across the natural and social sciences, and their associated fields of practice. While opening up spaces for collaboration and encounter, such subjects also confront those involved with their divergent methodological, epistemological, and ontological assumptions, leading to misunderstandings and even conflicts. The interdisciplinary encounter is thus an experiential and experimental field for questioning these assumptions, and*

*for probing new ways of addressing shared interests and commitments in academic institutions and beyond.*

*This panel aims to explore the myriad interdisciplinary dialogues and engagements within STS scholarship and its associated fields of practice. What epistemological, methodological, and practical issues arise when researchers from different disciplines share a common subject? What vocabularies and assumptions do these subjects bring into the interdisciplinary encounter? What frictions and misunderstandings arise between researchers and their institutions, if any? To what extent can we still speak of one and the same subject at all? We invite both individual reflections on such questions (presentations), and encourage interdisciplinary groups of two persons or more to share their experiences (conversations).*

## **Contributions:**

### **Interdisciplinarity in Secondary Schooling. What is the Role of Religious Education? – Irene Dietzel (University of Potsdam)**

This is a practitioner's observation of attempts at interdisciplinary teaching at a German Grammar School (Gymnasium). While the conditions of secondary education appear to be ideal for cross-curricular project learning, given the synchronicity of curricula and their integration into holistic / practical approaches, the divide between humanities and natural sciences often remains uncontested – schools continue to be factories of disciplinarity and the learning experiences of students remain fragmented along subject lines. The call for interdisciplinarity seems to find its counterpart in a persistent debate on the purposes of general education (Bildung) that sets the natural sciences and the humanities in competition to each other.

This paper reflects on the inherent tensions and discrepancies between subject-specific goals, assessment standards, and teaching philosophies. It also re-considers the role of an outlier subject, namely Religious Education (RE), focusing on the emerging Worldview paradigm that has come to reshape the subject. Is there potential to reshape the subject as facilitator of interdisciplinarity?

### **Doing Engineering'. Race, water supply and activist-expert knowledge in the urban - A fine-grained analysis of activist-experts who mediate conflicts around water supply between disadvantaged communities and the state – Felipe Fernández (University Freiburg)**

### **“We need our own anthropologist”: An STS inquiry into the inter-epistemic work of the professional anthropologist in Arnhem Land, Australia – Sam Williams (Charles Darwin University)**

Indigenous people in Arnhem Land (a region more than twice the size of Switzerland in the far north of Australia) have a long history of engagement with anthropologists. Indeed, it is possible that members of some Indigenous polities in Arnhem Land are more entangled with people who call themselves 'professional anthropologists' than anywhere else on the planet.

This paper draws on my experience negotiating this role of 'professional anthropologist'. In the course of my anthropological work, I have been engaged in various institutional procedures that require knowledge generated by accredited anthropologists, including evidencing Indigenous claims to ownership of land under western legislation such as the Aboriginal Land Rights Act, or recording and categorising information such that places of spiritual significance to Indigenous peoples can become 'registered sacred sites'.

At the same time, I have been inducted into quite different research relationships by a group of Bininj Indigenous Elders, a collaboration that began with the explicit statement from the group: "We need our own anthropologist". Through these collaborations, I have found myself involved in quite different practices and procedures of knowledge making in being guided by Elders, involving right collectives at the right times to generate (re)presentations of their ancestral sites and stories.

In recounting stories of these disparate 'professional anthropological' roles - one enacting the procedures of modern legislated institutions, the other being authored as an Indigenous institution's "own anthropologist" - I recognise a radical difference, or splitting, inherent in the figure of the 'professional anthropologist' I am embodying. In staying with the discomfort of this multiplicity, I seek to explore the possibilities for 'inter-epistemic' work that arise when (human) subjects cross back and forth between institutions, maintaining necessary separations and connections to achieve shared goals while participating in radically disparate knowledge traditions.

### **Designing for Integration: Building a Joint Interdisciplinary Sustainability Curriculum Across Europe – Sarah Keller & Jan Freihardt (ETH Zurich)**

A recently developed study programme - Europe's first international joint degree programme in sustainability - allows students to study sustainability at several leading European universities. Rooted in interdisciplinarity and transnational cooperation, the programme brings together diverse academic traditions, disciplinary languages, and institutional expectations. This ambitious structure presents not only pedagogical opportunities, but also practical and epistemological challenges: How can sustainability be taught as a shared subject when its meaning, scope, and methods differ across contexts?

As each lecturer is responsible for their own teaching unit, it is essential for programme management to provide critical and reflective input to help develop an effective learning environment that can integrate diverse perspectives and knowledge across fields and foster inter- and

transdisciplinary collaboration in order to address complex social, environmental and economic challenges. In our contribution, we reflect on these frictions and the attempts to address them—such as developing a course design checklist aimed at fostering mutual intelligibility, critical reflexivity, and curricular integration.

Drawing from the main author's involvement in part of the programme's curriculum design, we will (1) briefly introduce the programme and its unique interdisciplinary framework; (2) present a preliminary checklist as a tool to support cross-disciplinary coherence; and (3) open a discussion with the panel participants about the epistemic and institutional challenges they face in designing and enacting interdisciplinary teaching. In doing so, we hope to collectively reflect on what it means to "share a subject" in sustainability education and what conditions enable or hinder this shared endeavor.

### **3f: Holding Experts Together? Rethinking Knowledge Integration through Interexpertise**

**Open Panel, Friday 12<sup>th</sup> September, 11.30 – 13.00 & 14.00 – 15.30, HG E 26.5**  
**Convenors:** Jongheon Kim, Karine Gauche

*Contemporary socio-technical challenges such as digital transformation and climate change demand collaboration across diverse professional knowledge domains, including academic, technical, and policy-oriented fields. While interdisciplinary and transdisciplinary approaches have long sought to integrate different forms of knowledge, their effectiveness remains uneven. This panel introduces interexpertise as a novel framework for rethinking collaboration, moving beyond conventional notions of expertise as academic, hierarchical and exclusive. Instead, interexpertise conceptualizes professional knowledge more broadly, encompassing distinct yet interdependent forms of specialized traditions and problem-solving approaches (Abbott).*

*Building on interdisciplinarity (Barry & Born) and transdisciplinarity (Dedeurwaerdere), interexpertise shifts the focus from integration to negotiated authority, recognizing that consensus is neither always achievable nor desirable. It engages with STS — notably trading zones (Galison), boundary objects (Star & Griesemer), and boundary work (Gieryn) — while also drawing from the sociology of professions and organizational science. By foregrounding professional expertise beyond academia, this framework interrogates continuity in entrenched knowledge hierarchies, change in expertise negotiation processes, and critique of dominant models of collaboration.*

*Through theoretical analysis and empirical cases in fields such as digital agriculture, environmental governance, and education, the panel explores how reframing collaboration as interexpertise reconfigures epistemic hierarchies and fosters both co-creation and conflict-resilient collaboration. Case studies will highlight procedural tools such as reflexive negotiation protocols and co-design frameworks that promote inclusive and context-sensitive knowledge integration. By examining both successful collaborations and enduring tensions, this panel advances STS debates on "holding*

*together” and offers interexpertise as a framework for fostering resilience in complex socio-technical systems.*

## **Contributions:**

### **Session 1 Friday 12<sup>th</sup> September, 11.30 – 13.00**

#### **The role of translation in interexpertise: An example of the ideational integration of forest into the German National Water Strategy – Sabeth Häublein (Albert Ludwig University Freiburg)**

The publication of the National Water Strategy (NWS) in March 2023 represented a significant shift in Germany’s approach to integrating water and forest policies. Previously, the water and forest sectors were institutionally and ideationally separate. Meanwhile, the interconnections become more and more evident with global warming: Increasing temperatures go along with a higher frequency of droughts, floods, and low water quality, affecting both forest and water resources. In contrast to previous policy documents, there are frequent references in the NWS to forests, signaling increasing policy alignment across the two policy fields. As the NWS was developed in a deliberative process over several years, the study here aims to trace the development process institutionally and discursively. In order to better understand how two separate sectors, each with their own professional and institutional structures, have become more integrated, I follow the question how the forest-related story-lines in the development process of the NWS emerged and who influenced the integration. The analysis draws on eight interviews with stakeholders directly involved in the NWS process, alongside 103 process documents. The findings reveal that forest-related narratives first emerged during dialogue sessions, but then evolved and diversified particularly in the drafting phase, indicating an integration top-down. Initially, forest stakeholders had minimal influence, but their involvement increased after the deliberative phase. It can be concluded, that joint efforts of stakeholders of both policy fields enabled the integration, while, however, the integration was initiated on a higher hierarchical level and is imbued with sectoral interests.

#### **Open Science as Interexpertise? Case studies from the European Organisation for Nuclear Research (CERN) – Antonia Winkler (CERN - European Organization for Nuclear Research)**

By promising to promote efficiency and inclusion in scientific practices, ‘open science’ has become a pervasive term in European research policy. Governance and research practice have conceptualized open science primarily as the broad dissemination of research outputs through digital infrastructures, geared towards overcoming knowledge and technology

development in institutional silos and enabling broad (re)use of research outputs in academia and industry.

This presentation proposes an alternative understanding of open science as a set of practices that draw on “interexpertise” by involving a range of actors beyond classical disciplinary and institutional boundaries in research processes. Case studies from the open data, open source software and open hardware domain at the European Organisation for Nuclear Research (CERN) will illustrate how researchers, technology developers and users establish interpersonal connections during processes of open science knowledge and technology development, challenging a framing of open science as impersonal dissemination of research outputs via digital technologies. In the context of such interpersonal exchanges, modular, expertise-based development as well as negotiations that draw on the accumulated contributions of different stakeholders establish local ‘trading zones’ (Galison) in which project objectives are prioritized and coordinated. Such practices reconfigure epistemic hierarchies by including a range of new actors in research and technology development processes, redefining their roles and objectives. However, they do not lead to a full ‘democratization’ of scientific practice, a goal frequently connected to open science. Instead, they establish new hierarchies that are bound to an individual’s field of expertise and stake in the project, rather than their institutional or disciplinary background. By drawing attention to the ways in which interpersonal negotiations and distributed expertise shape open science practices, this contribution will enable an explicit examination of the power structures embedded in open science projects.

### **Rethinking Knowledge Integration through instrumented expertise – Magalie Bourblanc (CIRAD)**

Le problème des algues vertes sur les plages bretonnes fait l’objet de plusieurs controverses depuis plus de trente ans, que ce soit à propos de leur origine, des mécanismes de leur prolifération ou encore de leurs impacts. Les autorités publiques ont souvent tenté d’éteindre ces controverses en commanditant des expertises scientifiques. Malgré tout, ces expertises officielles ne sont pas toujours parvenues à faire taire la contestation. En particulier, le risque sanitaire potentiel associé à la décomposition des algues suscite, depuis plus de quinze ans, une contre-expertise, mêlant sollicitations de figures d’autorité scientifique, savoirs profanes et métrologie populaire. L’ambition de cette communication est d’examiner les leviers utilisés par les mobilisations environnementales locales pour imposer la prise en compte de ces contre-savoirs au sein d’une expertise scientifique qui jusqu’à récemment les disqualifiait et se montrait peu encline à reconnaître un risque sanitaire en dehors de circonstances bien précises excluant de fait un danger pour les riverains des plages. Nous analysons la déstabilisation de cette expertise officielle à partir du moment où ces associations environnementales ont commencé à « équiper » leurs savoirs au travers d’instruments de mesure et à communiquer autour de ces mesures alternatives d’exposition au risque Algues vertes. De là, nous soulignons l’intérêt à suivre ces « savoirs outillés

», au croisement d'inspirations issues des STS et de l'instrumentation technique de l'action publique. Cette recherche a été menée dans le cadre du projet ANR Greenseas (« Trajectoires d'adaptations des socio-écosystèmes côtiers face au risque d'eutrophisation », 2023-2026).

**Pinning the Social Aspects in Energy Modelling: Conceptualizations of the 'Social' in the Swiss Energy Research Community** – Konstanty Ramotowski-Kula, Stephanie Briers, Dr. Bianca Vienni Baptista (ETH Zurich)

Over the last decade, there has been a push from European funders and policymakers to support more integrative transdisciplinary approaches for studying sustainable transition, to increase the impact of results and legitimize the produced knowledge. In modelling projects, this is coupled with an increased emphasis on the integration of the social sciences and humanities (SSH) and the involvement of societal actors within the research process, shifting the focus of the net-zero transition from a technical challenge to that of an entanglement between science, society, and technology.

We explore integration in ID/TD in two large modelling projects that aim to follow integrative approaches in energy modelling and Integrated Assessment Modelling. The first case study, Co-evolution and coordinated simulation of the Swiss Energy System and Swiss Society (CoSi) is funded by the Swiss Federal Office of Energy. It aims to connect Swiss energy researchers and stakeholders, improve the integration of SSH insights into a variety of models, and present a set of scenarios providing direction for policymakers. The second case study, Delivering the Next Generation of Open Integrated Assessment Models for Net-zero, Sustainable Development (DIAMOND), spans a European and global scale, with funding from the Horizon Europe framework. DIAMOND's goal is to update, upgrade, enhance, and open six IAMs following a TD approach, for models to better inform sustainable development.

Our aim is to develop a framework for inter- and transdisciplinary integration into sustainable modelling. The framework is derived from the empirical evidence collected in the two case studies and tested within the energy research and modelling communities. The framework offers actions for modelling research projects focused on sustainable transitions that build on SSH expertise and societal actors' insights. These constitute a contribution to developing better ID/TD integration processes for imagining sustainable futures, holding relevance for researchers, practitioners, and policymakers.

**Session 2 Friday 12<sup>th</sup> September, 14.00 – 15.30**

**Co-creating a digital platform for farmers in Mexico: A social analysis of how the platform was built – processes, strategies, and tensions** – Guilhaum Panas (INRAE, UMR Innovation)

Digitalisation of agriculture implies modes of production transformation via digital technologies” (Angeli Aguiton et al., 2022) (my translation). one of the products of the process of digitalisation is the eruption of digital platform for farmers. In this order, my presentations aims to describe and analyse how a platform was built.

From the outset, the project invites consideration of interexpertise as a core dimension. In fact, the app emerged from building ties between two institutions. The app is a marketplace designed to facilitate farmers’ access to both farming equipment and advisory services.

These results, drawn from both ethnographic observations and interviews with a wide range of actors, invite us to consider the notion of interexpertise and its associated challenges within a specific case. The aim here is to explore how this concept can be mobilized to gain a deeper understanding of the social dynamics underpinning a digital agriculture project.

The emergence and development of the project are based on techno-scientific promises and sociotechnical imaginaries, as well as on the participation of the targeted audience. Whether through initial exploratory phases, application demonstration workshops, or agricultural trade fairs, the app and its features have been gradually revised to precisely target a specific audience.

Finally, attention will also be paid to the types of knowledge and techniques being promoted. In this case, the project appears to support—or at least adapt to—very specific models of agriculture (namely, farms that are open to technological innovation, focused on productivity, and models that promote environmentally conscious practices).

**Holding sustainability together: Interexpertise and assemblage thinking in a digital sustainability assessment platform for Swiss organic farmers**  
– Anna Geiser & Olivier Ejderyan (FiBL Research Institute of Organic Agriculture)

Swiss agri-environmental politics are inseparable from a discourse of sustainability, yet what counts as sustainable remains contested. Swiss farmers are confronted with a cacophony of frameworks, each claiming to guide agricultural practice toward sustainability, but rarely coordinated with one another. Crucially, these instruments do not simply measure neutrally; rather, they are sites where knowledge on sustainability is generated, reconfigured and negotiated.

This contribution draws on ethnographic fieldwork within an inter- and transdisciplinary research project developing a digital sustainability assessment and advisory platform for Swiss organic farmers to explore the generative forces of interexpertise processes. Both the project and the resulting platform constitute situations where scientific, technical, policy-driven, and experiential forms of knowledge are not integrated, but rather held together in an ever-emergent constellation of heterogeneous elements. Building on Deleuzo-Guattarian assemblage thinking, I analyse how sustainability is not merely measured through this platform, but actively produced through interexpertise processes in the project, while highlighting

the important role of non-human agents. The central question is then not how expertise is integrated, but how it is held together: precariously, incompletely, yet with real consequences for what sustainability comes to mean in practice.

Drawing on context analysis, interviews with farmers and participant observation as an embedded researcher, I map the tensions that animate the project: diverging visions of the future, the push and pull between scalability and local specificity, and the ambivalent potential of digital infrastructures. Assemblage thinking does not try to resolve these differences, it makes space for productive dissonances and enables us to think co-creation beyond consensus.

**Format Approaches Towards a Community of Practice: Epistemic Networks in the Example of On WaterDialogues – Nikola Nölle (TD-Lab/TU Berlin)**

How do “communities of practice” emerge in settings that bring together actors from science and practice? To what extent can such collaborative networks be understood through, or extended by, the concept of interexpertise?

In this contribution, I explore these questions through the lens of the ongoing knowledge exchange event series On Water-Dialogues in Berlin that the TD-lab – the laboratory for transdisciplinary and participatory research of Berlin University Alliance – developed. It brings together researchers, policy-makers, activists, and infrastructure professionals around urban water issues. The series aims to foster mutual understanding of the diverse forms of expertise present and to build and strengthen informal networks – what might be called a “community of practice” – through a format that combines thematic inputs and a participatory tool. This “knowledge atlas” invites participants to articulate their expertise, their needs, and the unknowns they face in relation to a shared urban water challenge.

Drawing on an accompanying evaluation and supplementary interviews, I reflect on how such settings function collaboratively and can enable, but also constrain, epistemic work. Using concepts from STS and cultural anthropology – such as contact zones (Mary Louise Pratt), boundary work (Thomas Gieryn), and ecologies of expertise (Stefan Beck) – I explore how a community of practice can be facilitated or nurtured. Rather than presenting a best practice, I explore how such experimental formats can foster stronger collaboration to address the climate crisis, and what it means to 'hold expertise together' across institutional, disciplinary and epistemic boundaries.

**Holding Science and Communication Together: Interexpertise in the Making of a Particle Accelerator for the Public – Annabella Zamora (Université de Lausanne)**

This paper examines the making of a compact particle accelerator at a leading international physics laboratory, designed to function both as a scientific instrument and a public engagement device. The project brought

together physicists, engineers, technicians, science communicators, exhibition designers, and safety experts—professional communities with distinct epistemic traditions, institutional roles, and working cultures. Based on ethnographic fieldwork and document analysis, the study traces how these actors collaborated to produce a machine that is technically functional, publicly accessible, and institutionally coherent.

Rather than approaching this process as straightforward knowledge integration, the analysis also engages with the concepts of trading zones (Galison, 1997), boundary objects (Star & Griesemer, 1989), and boundary work (Gieryn, 1983), while attending to the institutional arrangements that shaped and mediated these negotiations.

By focusing on a hybrid infrastructure designed for public engagement, the paper contributes to STS debates on how technoscientific collaborations “hold together.” It foregrounds the procedural, material, and relational work involved in aligning scientific and communicative expertise within large research organisations, and offers interexpertise as a lens for understanding how such alignments are practically achieved.

## **5a: Crafting Connections: A Workshop to Prototype Bridges between Research and Practice**

**Workshop, Friday 12<sup>th</sup> September, 16.00 – 17.30, HG E 33.3**

**Convenors:** Francesca Moro, Shiila Infriccioli

*The workshop “Crafting Connections: a Workshop to Prototype Bridges between Research and Practice” explores the persistent divide between researchers and practitioners, which manifests in various disciplinary fields. Despite the resources, expertise, and recognition that institutions bring to the table, there remains a gap in translating academic research into tangible, real-world outcomes. On the other hand, practices often lack the legitimacy and spaces of exchange to interact with research processes.*

*STS scholarship has long emphasized the co-production of knowledge and the mutual shaping of science, technology, and society. Yet, these insights often struggle to transition from theoretical discourse into practical implementation. This disconnect begs questions about the lack of shared infrastructures and practical proposals where the insights of Science and Technology Studies (STS) can materialize as operative tools and methods.*

*The workshop invites exploration into why the paths of researchers and practitioners often fail to converge—whether due to organisational issues, mismatched priorities, or systemic barriers. Encouraging active participation and cross-disciplinary collaboration, participants will engage in round-table discussions addressing topics such as challenges in collaboration, examples of case studies of success and failure, the role of language in shaping the divide, and how current organizational infrastructures are enhancing the gap. In a second phase, teams will be asked to co-create prototypes—such as tools, practices, or methods—that could act as starting points to navigate the liminal spaces between research and practice.*

# **New Technologies, Critique and a Changing World**

## **3j: What Holds Startups Together? Exploring Infrastructures, Places, and Knowledge**

**Open Panel, Wednesday 10<sup>th</sup> September, 12.00 – 13.30, KO2-F-174**

**Convenors:** Loïc Riom, Tanja Schneider

*Since the early 21st century, the startup has emerged as a central figure in global business culture. From Google to Uber, from Elizabeth Holmes to Sam Altman, startups have been a key vehicle of the expansion of the Tech industry and of the narrative of the Silicon Valley's success. Start-up as a form stages the figure of an entrepreneur "chasing" innovation and capable of creating value through disruptions. This specific way of driving the economy has fostered a distinctive set of practices, discourses, devices and organizational forms, which have received increasing scholarly attention in recent years. These and further studies have begun to explore how and to what effect startups are reshaping markets, work and industrial sectors.*

*By bringing together perspectives from science and technology studies, economic sociology, geography, political economy, and related disciplines, this panel seeks to critically examine what holds startup together and explore the infrastructures, places, and knowledge that they are attached to.*

### **Contributions:**

#### **Venture capitalization as zeitgeist – Loïc Riom (UNIL) & Tanja Schneider (DTU)**

This aims to explore how venture capital has become central in shaping innovation across industries. From vertical farms in urban centers to digital platforms enabling intimate concert experiences, new business ventures are framed as disruptive, tech-driven solutions transforming established practices and sectors. These start-ups attract significant venture capital investment, revealing shared dynamics that extend beyond economic sector.

Since the 2008 financial crisis and the rise of quantitative easing, venture capital has grown far beyond Silicon Valley, spreading startup culture globally. Today, companies financed by venture capital profoundly impact everyday life. In this paper, we introduce the concept of venture capitalization as a way to grasp these developments. We explore venture capital not merely as a financial mechanism, but as a cultural force embedded in a broader zeitgeist—a historically specific pattern of meaning-making that stretches across sectors and geographies (REF Kraus). Drawing on Krause's framework, we examine how this zeitgeist endures over time, spreads across domains, and is sustained by media and socio-material arrangements.

By foregrounding the cultural and political dimensions of venture capital, we aim to open new interdisciplinary dialogues between science and technology studies, political economy, and economic sociology. In doing so, we move beyond dominant accounts of calculative logics to interrogate the cultural practices and symbolic significance of innovation as shaped by venture capital. Ultimately, we contribute a critical perspective on the financialization of innovation and its socio-cultural consequences in the contemporary startup economy.

### **Superior Men: Inventing the Modern Entrepreneur in the Mid-20th Century United States – Martin Giraudeau (Sciences Po)**

This paper proposes a novel intellectual history of the late 20th and early-21st century entrepreneurial discourse. It focuses on the influential and oft-celebrated views of Georges F. Doriot from his arrival in the United States in 1921 to his retirement from the management of American Research and Development Corporation (ARD) in 1973. First, thanks to an analysis of the personal archives of Doriot, the intellectual origins of his stance, focused on the identification of “superior men” and the rejections of standard management practice, are traced back to Wallace B. Donham’s positioning of administration at the intersection of all social sciences, but also to Alfred N. Whitehead’s process philosophy, to physiologist Lawrence J. Henderson’s organicism, and ultimately to contemporary eugenics. Drawing on FBI archives, the paper then reveals the jointly ideological, political, and financial implications of these views, by exploring the tight connections between Doriot and members of the French collaborationist government during WW2. Finally, the paper shows how his intellectual views shaped Doriot’s practical business activities at ARD, with a specific focus on the company’s project appraisal procedures, accessible through the remaining archives of the corporation. Altogether, the paper shows how the current discourse of entrepreneurship emerged in contradistinction to the managerial discourse that was being forged at the same time, as well as its long and deep connections with inegalitarian and hierarchical understandings of society.

## **3k: Out of the blue? (Dis)continuities and dependencies in the development of the low-carbon hydrogen sector**

**Open Panel, Wednesday 10<sup>th</sup> September, 14.00 – 15.30, KO2-F-153**

**Convenors:** Maël Goumri, Hugo Vosila

*The development of a low-carbon hydrogen industry appears key to achieve decarbonation goals at different levels. The H<sub>2</sub> molecule encapsulates a wide range of sociotechnical promises (Joly, 2010) and solutions, from industry and transport decarbonation to energy storage end uses.*

*However, it doesn't take place in a blank energy landscape. Highly reliant on electricity production to supply electrolyzers, this « new » energy vector seems*

*entangled with nuclear, gas and oil industry logics and « conceptions of control» (Fligstein, 2001). But how far? As one technology can embody opposing energy transition pathways (Evrard, 2013), dependency of green hydrogen towards previous and incumbent energy players remains poorly documented.*

*Crossing international, national and regional hydrogen strategies and projects, this panel aims to take perspective on the inheritance of « already there » networks of energy and policy actors, infrastructures, narratives, practices. It welcomes communications focusing on:*

- *Materialities: To what extent hydrogen development relies on or inherit from installed infrastructure? What infrastructure dependencies (Star, 1999) are prominent, from electricity distribution network and supply to the layout of new H2 routes?*
- *Steering & Governance: How open are hydrogen models to new comers? Do hydrogen development rearrange energy incumbent players' strategies? What place takes democracy in decision making process?*
- *Narratives: What historical patterns, sociotechnical imaginaries (Jasanoff et Kim 2009) does the industry inherit? Is decarbonized hydrogen truly disruptive, or the continuation of past narratives and ambitions?*
- *Ethics: Does (dis)continuities permit to develop a "just transition"?*

## **Contributions:**

### **Red Lights on Green Hydrogen: The Case of Green Hydrogen Development in the Tsau Khaeb National Park – Antoine Latarge & Marie Forget (EDYTEM – CNRS / Université Savoie Mont Blanc)**

To reach its net-zero emissions goal by 2050, Switzerland has identified hydrogen as a key solution. In its green form, produced from renewable energy sources, hydrogen could contribute significantly to decarbonizing society. However, significant challenges remain: only about 5% of hydrogen produced globally and in Switzerland, is currently green. Estimations from the Federal Council and the Swiss Association of Electricity Companies (VSE) suggest national demand in hydrogen could increase 38-fold by 2050, while domestic production may cover just 7% of consumption. Therefore, meeting decarbonization targets will require large-scale imports of green hydrogen.

This large-scale production of green hydrogen requires vast areas exposed to strong and steady wind and/or high solar radiations to produce hydrogen from renewables. Despite being among the highest consumers of hydrogen, European, Korean, or Japanese territories do not have enough territorial resources. As a result, numerous territories in Africa and Latin America are being identified as strategic locations to support the projected global surge in demand for green hydrogen, particularly for applications in road and maritime transport as well as industrial processes.

This presentation examines a case in Namibia, where 20,000 km<sup>2</sup> of a southwestern national park have been allocated for the development of a global green hydrogen hub. Drawing on reports and semi-structured interviews from a fieldwork in 2025, this study explores the creation of such ex-nihilo energy territories, focusing on stakeholders' interplays and power

dynamics. Through the controversies it generates, the project reveals the environmental impact of the massive infrastructure required to meet global green hydrogen demand. The local analysis will be complemented by a reflection on the integration of this project into national networks, as well as on the dynamics that may be considered neocolonial in nature. In this context, the narratives of energy transition will be critically analyzed through the lens of a just transition.

**Politics of uncertain of golden hydrogen: a prospective analysis of environmental and social injustice in Brittany – Maël Goumri (INSA Rennes)**

In response to the limited hydrogen production capacities of electrolysis technologies over the coming decades, the hydrogen industry is increasingly turning its attention to so-called “natural” hydrogen. Often referred to as gold, white, native, or geogenic hydrogen, this form is not manufactured like conventional hydrogen but rather generated through underground natural chemical reactions—typically between specific types of rocks and water—which can potentially be exploited to supply futures uses. Recent scientific investigations have fuelled a technoscientific promise (Joly 2013) of energetic abundance (Pottin 2024) grounded in both the vast quantities that may be available and the possible renewability of these resources. It led authorities to seriously consider this hypothesis despite the uncertainties and the potential environmental injustices it might create (Bullard 1990).

Drawing on findings from an ongoing foresight study conducted in Brittany (west of France), this talk highlights the potential environmental injustice that this technology may create. Notably, the potential areas identified for exploration and possible extraction are often located in some of the region’s poorest areas, many of which have a history of extractive industry. The new extraction of hydrogen may reveal some other controversies on mining as well as on the just distribution of benefits and the unequal distribution of pollutions. It provides a broader reflection on the ways to organise a just transition at the local level in presenting the underpinning social issues regarding the gold hydrogen development (Stavis 2023).

## **4c: Reflecting Controversies: Epistemologies of studying blockchain and other politically charged technologies**

**Roundtable, Thursday 11<sup>th</sup> September, 9.30 – 11.00, HG D 5.1**

**Convenors:** Anna Lytvynova, Annika Aebli, Fabienne Silberstein-Bamford, Joshua S. Bamford, Violeta Camarasa San Juan

*Designed to redefine how individuals engage with financial and socio-economic communities, blockchain technology is inherently involved in the articulation of togetherness and inclusion in contemporary societies. The same technology is*

*enmeshed in political, normative, ecological, and social controversies, and often faces resistance as an object of study from the social science community. At stake in the ways we study blockchain technology are both the understanding of the sociotechnical world and the ways researchers co-create such knowledge. The questions of how to research politically charged financial technologies are not only questions of academic practice but of epistemics that inform collective worlds and desirable futures.*

*In this roundtable discussion, we grapple with questions of critique and epistemology in the research of controversial technologies. Much has been said about critique as a form of intervention ( Lee 2021), care (Puig de la Bellacasa 2011), responsibility (Latour 2004), and democratic dialogue (Jasanoff 2004). We aim to take critique as a starting point, rather than do critique. Furthering Boltanski's (2004) articulation of critique as an emancipatory practice and Felski's (2015) reminder of not moving to critique without engagement, we will question how our practices as a scientific community researching meaning-laden technology are in themselves practices of epistemic world-building. How do our research practices inform the knowledge we produce? In what ways might STS be uniquely positioned to engage in questions of epistemic togetherness and collective knowledge making through, within, or contrary to controversial financial technologies? How do we as researchers "hold together" in this inquiry?*

## **Contributions:**

### **Epistemic Tensions in Researching Chinese Technologies – Lena Kaufmann (University of Fribourg)**

My ethnographic research on Chinese digital infrastructures and technologies — fiber-optic networks (2019–2024), which also underpin financial infrastructures, and agricultural drones (since 2024) in Switzerland — takes place in an increasingly polarized geopolitical context. The inclusion of Huawei, which has become iconic of this debate, on the US Entity List during the Sino-American trade war marked a shift in how Chinese technologies are discussed and regulated in Europe. Similarly, the emergence and global spread of Chinese civil drones — particularly those produced by DJI, which US officials have described as “Huawei on wings” — reflects wider anxieties over surveillance, data ownership, and the militarization of civil technologies. Meanwhile, the study of China itself has become politically charged.

Such controversies shape the very possibility of doing fieldwork. Researching critical infrastructures and high-tech companies not only raises ethical and political questions, but also epistemological ones: How do we gain access? How do we ensure our work is not co-opted or misread? What does it mean to study “Chinese” technologies as an object of knowledge in this climate? How are researchers positioned — and sometimes compromised — when studying such meaning-laden technologies?

This roundtable offers an opportunity to reflect on these questions collectively. I am particularly interested in how STS and neighboring fields such as

anthropology can foreground situated and reflexive engagements with controversial technologies, in contrast to dominant geopolitical or market-centered framings. How do our research practices in such settings inform the knowledge we produce? What forms of critique and epistemic togetherness can guide our inquiries?

### **Implementation of Blockchain in Public Services – Marvin Ceinos Dumont (University of Geneva)**

Blockchain is often presented as a transformative tool for public governance, promoting decentralization, transparency, and data security (Goulet, 2016; Malafosse et al., 2019). Yet, its integration into public services reveals tensions between utopian ideals and the practical limitations of implementation. This research examines these tensions through reports produced by the European Union Blockchain Observatory & Forum (EUBOF), a European Commission initiative launched in 2018 to foster blockchain innovation.

Using the theoretical lens of the Sociotechnical Imaginary (Jasanoff and Kim, 2015), the study explores how narratives surrounding blockchain shape political discourse and technological deployment. Blockchain is framed as an enabler of democratic participation and transparency, echoing ancient ideals of direct governance (Bodineau, 2011). However, EUBOF reports reveal contradictions between these ideals and implementation challenges, including technical complexity, security concerns, high costs, and the opaque delegation of authority to algorithms (Becker, 2019).

The analysis also considers blockchain as both a product and producer of technological myths. Associated with cryptocurrencies, smart contracts, and DAOs, it carries narratives of individual autonomy, absolute transparency, and incorruptible systems (Brody and Couture, 2021; Pucheu, 2023). These imaginaries continue to influence public expectations despite their partial disconnection from real-world capabilities.

This research unfolds in three stages: contextualizing blockchain's emergence in Europe, analyzing the EUBOF reports, and applying the Sociotechnical Imaginary to highlight the frictions between idealized discourse and material practices. By examining the contradictions within institutional narratives, the study reflects on the epistemological challenges of researching politically charged technologies. It argues that blockchain controversies are not only technological but also discursive, inviting us to question how public imaginaries, governance ideals, and regulatory frameworks are co-constructed. Ultimately, this approach contributes to STS debates by interrogating how knowledge about emerging technologies is shaped, legitimized, and contested in the public sphere.

### **Researchers as Mediators: Unsettling Institutional and Grassroots Knowledges of Blockchain – Jiaxi Hou (RMIT University)**

My research examines how blockchain is both reshaping and being reshaped in subaltern contexts. I pay particular attention to the everyday engagements of socio-economically disadvantaged groups in China—including, but not limited to, rural migrants, ethnic minorities, and precarious workers—as well as diasporic Chinese communities. These groups are often dismissed as non-users or as holding only folkloric understandings of emerging technologies, rendering their practices unworthy of serious knowledge-making. To fill in these gaps, my study traces how they actively navigate blockchain systems to make a living, developing rich vernacular knowledge through a range of grey practices—many of which are legally, morally, or technically contested within prevailing frameworks largely shaped by global elite actors. I believe their experiences and perspectives not only offer alternative constructions of blockchain, but also reveal the power dynamics that are embedded and naturalized within such technologies.

As a participant researcher closely connected to users, practitioners, and innovators from marginalized backgrounds, I often find myself navigating two epistemic worlds—deeply interconnected yet still distinct: the formalized, institutional forms of knowledge and the grassroots, practice-based ways of knowing rooted in everyday life. Neither the role of a spokesperson for the marginalized nor that of an authoritative interpreter feels adequate. I am drawn to the idea of “researchers as mediators”—those who translate, bridge, and most crucially, unsettle both institutional and grassroots knowledges. Inspired by actor-network theory, I imagine that the fragments from both can be assembled into new epistemic maps—where researchers/mediators act less as spokespersons and more as cartographers of entangled terrains.

In sum, I hope to join this roundtable with more of a question than a conclusion: how might we envision multi-layered knowledges around blockchain, a decentralized technology shaped by and responsive to contemporary social discontents?

**‘Terraforming Cyberspace’: Small Jurisdictions as Sites of Neo-Colonial Extraction using Blockchain Technology – Ben Biedermann (University of Malta)**

Modern blockchains emerged from libertarian countercultures in the 1970s, promising individual freedom from state surveillance and freedom to self-governance. The cypherpunk movement challenged the political establishment by circumventing the United States’ export restriction on the encryption software Pretty Good Privacy (PGP). Meanwhile, blockchains became part and parcel of the hegemonic political discourse. For example, the Solana Foundation pledged ‘to invent technologies and not genders’ while lobbying through its American think tank Solana Policy Institute. Solana now is used by Palau for issuing electronic residency documents on-chain, highlighting that ‘redefining how individuals engage [...] with communities’ is the core problem of decentralised technologies’ political entrenchment. As Palau is not an isolated case, this research posits the question why do small jurisdictions choose private-public partnerships (PPPs) for provisioning decentralised technologies as digital infrastructure?

In small jurisdictions political and economic actors interweave libertarian ideology with hegemonic policies that enable the growth of Big Tech. Ethnographic research shows that traditional venture capitalists backing Big Tech, such as a16z, started engaging in neo-colonial world building through digital and legal infrastructures. Under the 'network state' movement, PPPs are established to legitimise private for-profit companies issuing digital identity documents, tokenising territory, and rendering cryptocurrency legal tender. This study demonstrates how Palau, the Marshall Islands, and Dominica have become sites of the deliberate erosion of nation-state jurisdiction. It contributes a critical perspective on blockchain in assemblages (Callon, 2007) of social technology (Leibetseder, 2011) for the neo-colonial endeavour of terraforming cyberspace into network states.

### **3a: Has Critique of Algorithms Run out of Steam? Social Studies of AI, machine learning, and big data in questions**

**Open Panel, Thursday 11<sup>th</sup> September, 14.30 – 16.00, HG E 33.3, & Friday 12<sup>th</sup> September, 11.30 – 13.00 & 14.00 – 15.30, HG F 26.3**

**Convenors:** Florian Jatón, Marc Lenglet

*Over at least three decades, critical algorithm studies have challenged the techno-solutionist and commercial zeal of AI over-enthusiasts, reframing algorithms as techno-cultural constructs that reflect and reinforce their socio-political origins. However, a growing backlash is now evident, as computer scientists increasingly resist engaging with social scientists, dismissing their critiques as obstructive or overly abstract.*

*Hence this panel's deliberately provocative – and obviously Latourian – question title: has critique of algorithms run out of steam? It will explore the past and current dynamics of algorithm critique, encompassing AI, machine learning, and big data.*

*More specifically, the panel will address, but won't be limited to, three interrelated questions:*

- *Firstly, where does the critique of algorithms come from? While the history of computing has recently experienced a much-needed revival, the history of the critique of computing remains, in many respects, incomplete.*
- *Secondly, who is contributing to this critical movement and its backlash? For instance, while post-9/11 surveillance studies openly positioned themselves as critical and agonistic, the more recent emergence of ethical reflections around fair AI has further blurred these boundaries in ways that require, we believe, deeper investigation and documentation.*
- *Thirdly, how is the critique of algorithms articulated? While the book form has played a significant role in disseminating the findings of critical algorithm studies, it remains to be documented how (and to what extent) these arguments have spread to places capable of effective tangible change, such as classrooms, university curricula, or national parliaments.*

## **Contributions:**

### **Session 1 Thursday 11<sup>th</sup> September, 14.30 – 16.00**

#### **The Tyranny of Automated Knowledge – Greti-Iulia Ivana (University of Glasgow)**

In her upcoming book on corporate power and AI, Rikap refers to the oppressive expectation that automation (and artificial intelligence in particular) is used in all forms of innovation as epistemic totalitarianism. We have long known technology is political (Winner, 1980), but Rikap's formulation highlights not only the politics built into tech, but also of the increasingly dominant position of certain technologies in the production of knowledge more generally. At the same time, many voices (Srnicek 2017, Sadowski 2021) stress that the development and uses of digital apps, platforms, devices are fundamentally intertwined with the functioning of late capitalism. In this context, I argue the disciplinary area of sociology, which has a long intellectual tradition of critically analysing both the logics of capitalism and tech/innovation, is very well positioned to question automation, big-data and more recently AI. The aim of this presentation is to explore whether and to what extent sociology does that, on a methodological front, and to a lesser extent theoretical front. Theoretically, I argue much effort has been dedicated to resisting the expanding reliance on digital data, quantification and algorithmic models. Methodologically, however, I suggest that the prevalent approach has been to close the gap with computational social sciences and integrate different kinds of research tools in understanding empirical social realities. That is why, I discuss several proposals which seek to nourish the connection between social sciences and computation and reflect on the impact methodological hybrids have on advancing technological critique.

#### **Algorithms and digital data in economic research: towards a novel critique of modern economics – Magdalena Malecka**

The goal of the talk is to discuss the main assumptions of my upcoming EU-funded research project that analyzes 1) the ways in which knowledge production in modern economics has been shaped by computer technologies and 2) the epistemological, societal, and political implications of the increasing computerization of economic research. Since computer technology is a too general notion as an entry for this analysis, a crucial move to achieve the aim of the project will be to focus on the aspects of computer technologies relied upon in economics: digital data and algorithms. In the project I will examine four case studies of the research in modern economics (decision theory, macroeconomic DSGE models, financial economics, and empirical work in contemporary econometrics) to investigate how, and to what effects, the problems studied by economists get translated into the structure and format of digital data and into algorithms. Importantly, this investigation should open a novel path into the critical scrutiny of the power structures that have shaped economic research – via the computer technologies. During the talk I intend to

reflect on the critical potential of centring the analysis of modern economics on the concepts of algorithms and digital data. I will present arguments on why focusing on these concepts in the case of the analysis of modern economics offers a compelling entry point for both epistemological, normative, and political critique, as well as for a promising synthesis of insights from philosophy and history of economics, STS, and critical data and algorithms studies.

### **Performing Algorithmic Critique Otherwise: Artistic Practice as Method** – Mona Hedayati

As algorithmic systems increasingly function as the infrastructural core of contemporary life, the rupture surrounding their reception and critique is becoming more pronounced. While today STEM and social sciences and humanities are far more porous than when C.P. Snow (1959) first conceptualized the well-known clash of two cultures, their onto-epistemologies are far from seamlessly compatible. The cultural critique of algorithms frames the current machine learning systems as a passthrough between real-world operations and computational logic (Finn 2017) enacting abstractions through vectorization, feature extraction, and optimization. From a technical standpoint, these processes are positioned as “engineering problems to solve” and thus mechanisms that are structurally necessary: mechanisms to ensure tractability, generalization, and performance at scale. Frameworks such as critical-technical practice that emerged from AI research (Agre 1997) left a legacy of merging these logics in practice. Building on its practice-based approach but looking towards aesthetics as a way of building speculative experiences, this proposal turns to artistic research as a field that can embody and perform critique within a technical arena and in this sense become a method in its own right. Practices such as data materialization and data visceralization (Wiens et al. 2020; D'Ignazio & Klein 2020) introduce aesthetic and functional interventions into computational processes, exposing their assumptions and retooling their operations. Rather than illustrating critique, these practices instantiate it, generating embodied, relational, and contingent engagements with algorithmic operations and imagining ways of embedding social thickness within them. In doing so, they open a space for creative methods to become a site of contestation, proposing to situate the force of critique within artistic reconfigurations that reorient the technical and the cultural in a situated field of interaction.

### **Black Boxes on White Walls: Valuing AI Art in the Age of Algorithmic Opacity** – Hanna Sipos (University of Basel)

As artists increasingly adopt commercially available AI tools like MidJourney and ChatGPT—as well as self-trained models built on open-source code—museums face growing pressure to re-evaluate their curatorial practices and valuation strategies. These tools are trained on opaque, web-scraped datasets and embody layered algorithmic labour, raising unresolved ethical and epistemological questions around authorship, agency, and authenticity—

core criteria in institutional valuation. While Critical Algorithm Studies (CAS) have revealed the socio-political entanglements of data and machine learning, less attention has been given to how such critiques are enacted within institutions responsible for shaping cultural value.

This paper argues that museums are a critical but underexamined site where algorithmic critique must become actionable. Drawing on a mixed-methods ethnographic study—including interviews with AI artists and museum professionals, analysis of AI art competition entries, and Q-methodology to map subjective perspectives—the research investigates how curators and other institutional actors negotiate the inclusion of AI-generated works. It examines how authorship, agency, and authenticity are being reshaped through black-boxed creative processes and uncertain data provenance.

The hidden origins of training data and source code often clash with museums' ethical commitments to transparency and equitable cultural representation. These tensions expose emerging curatorial dilemmas: how to value artworks created through distributed human and nonhuman agency, and how to respond to the exploitative structures embedded in AI tools. In asking what it means to value AI art, this paper explores how algorithmic critique can move from theoretical discourse into the institutional routines of selection, mediation, and preservation.

## **Session 2 Friday 12<sup>th</sup> September, 11.30 – 13.00**

### **The Use of Biometric Data in Refugee Governance: An Examination of Policies, Issues, and Challenges in South Asia – Niruka Sanjeevani** (General Sir John Kotelawala Defence University)

The use of biometric data within the refugee sector in South Asia is steadily expanding, playing a transformative role in refugee governance. Biometrics denote biological or physiological characteristics, such as fingerprints, facial features, iris, and voice recognition, that are frequently employed in status determinations. However, in South Asia, where the refugee system encounters a significant accountability deficit, concerns have emerged about the insufficient safeguards in place for the storage and dissemination of refugees' data. In this regard, the biometric registration of Afghan refugees in Pakistan and the issuance of smart cards utilizing iris recognition technology have ignited controversies due to the lack of an adequate data protection framework. In a similar vein, the 'Biometric Identity Management System' (BIMS) implemented by the UNHCR to register Rohingya refugees in Cox's Bazar, Bangladesh, failed to protect data privacy, as biometric data was shared with Myanmar without the refugees' consent. Moreover, the Indian government has been gathering biometric data from Rohingya refugees, a process initially launched by the local administration in Jammu and Kashmir. Therefore, the primary research question of this paper is how these states govern the biometric data of refugees. The study focuses particularly on the use of biometric data in refugee identification while also examining the potential risks of exclusion, data misuse, and violations of ethics and privacy.

**Narratives Around Data Annotation: Worker Misrecognition, Control, and the Consequences for AI Critique** – Clément Le Luëc & Maxime Cornet (Université Paris Panthéon-Assas, CY Cergy Paris Université)

Over the past decade, critiques of artificial intelligence (AI) have often focused on algorithmic bias and opacity while neglecting the essential but underrecognized human labor behind AI systems—particularly data annotation. Recent scholarship has begun bridging this gap by connecting technical aspects of AI development with ethical concerns over annotator exploitation. This paper examines how AI practitioners, specifically data scientists, perceive and represent annotators' contributions, revealing a tension between acknowledging their necessity and downplaying their role to sustain narratives of automation and innovation.

The study draws on qualitative fieldwork involving outsourcing chains between French AI startups and Business Process Outsourcing (BPO) firms in Madagascar. It includes interviews with 30 employees from 11 AI startups, 147 annotators, and 13 executives from 7 BPO companies.

Findings show that while data scientists recognize high-quality annotation as crucial for model performance, annotators' expertise—especially their cognitive and contextual skills—remains institutionally and discursively marginalized. Despite growing awareness of algorithmic bias and dataset diversity, ethical concerns about annotators' working conditions are often sidelined. Some companies prioritize cost-cutting over fair labor practices, while others adopt superficial certifications (e.g., BCorp) that fail to meaningfully improve conditions. The study highlights challenges in regulating subcontracting chains, where accountability is diffuse and corporate oversight weak.

The paper argues that addressing annotators' working conditions requires global regulatory measures. While the EU's proposed "duty of vigilance" is a step forward, political resistance has stalled progress. Ultimately, the study contends that ethical AI cannot be separated from broader political-economic structures, including globalized subcontracting. Ignoring annotators' role not only perpetuates labor exploitation but also obscures how human input shapes—and sometimes exacerbates—AI biases and limitations. A truly ethical AI must integrate labor justice into its critique and governance.

**Avenues for social contestability in AI: beyond system life cycles and technical mechanisms towards governance structures, critical practices and organizational cultures** – Simon David Hirsbrunner, Steven Kleemann & Milan Tahraoui (Universität Tübingen, German Institute for Human Rights, Berlin Institute for Safety and Security Research)

In view of the multiple risks posed by current AI systems, "contestable AI" has become a new paradigm to facilitate trustworthy and ethically responsible systems design (Alfrink et al. 2022; Lyon et al. 2021). Conceptual models of AI contestability typically work in the logic of a "principle-to-practice" translation where ethical values and legal norms are translated to technical

mechanisms implemented in individual systems design. These mechanisms are crucial in enabling effective possibilities for users and affected stakeholders to challenge wrong or otherwise ethically problematic decisions and the underlying logic of AI-based algorithms. The existing conceptualizations and do, however, mostly take up the position of constructive critique aiming at improving the quality and acceptance of systems. Moreover, they operate in the logic of individual systems design and a preferential treatment of the designers' position in the socio-technical assemblage of AI making. The resulting enactments of AI contestability naturally limit and channel the extent of what can be contested, who can contest, where contestation takes place, how it unfolds and, most to what ends it is operationalized. Against this background, the contribution points at manifestations and avenues that increase the scope of critique and conceptualizes contestation as an often fragile, sometimes carefully crafted socio-technical practice.

The underlying study draws on participant observation and conceptual work carried out within a transdisciplinary research project investigating and developing AI methods and technologies for the context of police intelligence.

### **Session 3 Friday 12<sup>th</sup> September, 14.00 – 15.30**

**A critical praise of algorithmic agency: Phased wisdom, isomorphic trueness, and extrinsic intelligence** – Florian Jatón & Marc Lenglet  
(Geneva Graduate Institute, NEOMA Business School)

This paper aims to diplomatically reconcile the radical critique and endorsement of algorithmic agency. Building upon ethnographic studies of the mundane shaping of algorithms, it begins by underlining three positive attributes of algorithmic agency: wisdom (the ability to embody learned experiences derived from referential datasets), trueness (the ability to remain consistent with encoded principles), and intelligence (the ability to link new elements to prior knowledge). To balance this perspective, the paper critically highlights the limitations of these attributes through the lens of philosophy. Chuang Tzu's concept of emptiness reveals the struggle of algorithmic agency with openness and confusion; Bruno Latour's work on psycho-bearing entities highlights algorithmic agency's imperviousness to external disruptions; and Henri Bergson's ideas expose the inability of algorithmic agency to engage with dynamic phenomena. This exploration results in a "critical praise" that acknowledges both the capacities and constraints of algorithmic agency, providing a foundation for further diplomatic undertakings.

**On the conceptual capture of artificial intelligence, its material political economy, and application programming interfaces** – Yannick Fritz  
(University of Basel)

Generative artificial intelligence (AI) not only produces countless images; the language used to critically examine its functioning is also often characterized using visual vocabulary. Either conceptualized as "distorting lens" (Pasquinelli

and Joler 2021) or as “blurry JPEG” (Chiang 2023), AI-supported knowledge production is postulated as a lossy process.

The success of DeepSeek’s AI models in early 2025 seems to run counter to this metaphor. With significantly lower resource requirements, DeepSeek matched its competitors in industry standard tests. DeepSeek is also said to have trained its models using “knowledge distillation”—a technique in which small models are trained using the outputs of larger ones—ostensibly using access to the application programming interfaces (APIs) of its competitors Meta and OpenAI. In addition to intensifying existing export restrictions on US graphics processing units (GPUs)—which are crucial for training AI models—access restrictions to APIs from US companies are now also being discussed. If AI critique is taken up through an examination of these hardware conditions, then the training of the models by means of APIs also become comprehensible in the context of AI platform policies and ‘digital sovereignty’. If the outputs of AI models then emerge as exploitable asset, their description as “blurry” seems inadequate and epistemological questions appear closely linked to the material political economy (MacKenzie 2021) of the AI industry.

The contribution argues that in challenging such visual vocabularies, both the limits of current conceptual approaches to AI and distinctive novelties of developments to be critiqued emerge. In this sense, it is necessary to question the ‘lenses’ through which AI-aided knowledge production is viewed. Ultimately, the hardware conditions, the increasing ‘platformization’ of AI and its epistemologies as a ‘cognitive assemblage’, in which software and hardware, abstraction and material implementation are always already connected, are brought together.

### **Why do we need a feminist lens to revisit AI critique – Liliia Zemnukhova (Deutsches Museum)**

Nowadays, the codification of ethics, the promotion of data culture and the widespread use of digital literacy are considered reasonable ways to reduce the risks of AI development (Müller 2021). Nevertheless, the present condition of AI production and regulation indicates a lack of non-engineering expertise, despite numerous academic contributions to the much-debated issue of AI ethics. From the perspective of critical technology research, these categories themselves raise questions: For example, social scientists of technology convincingly subject key concepts of ethical discourse, such as accountability or transparency, to rigorous critical parsing and show the limitations of their use as basic guidelines for ethical decision-making (Ananny, Crawford 2016; Neyland 2015).

The feminist approach has been proven to be an excellent framework to critically reconsider established norms, orders, structures and actions (Weber 2015; Wagman, Park 2021). Technofeminism uncovers the grounds of technological development and usage by reassessing inequalities and underrepresented experiences (Wajcman 2004). It offers a more complex perspective that makes those underrepresented groups more visible (Weber, Kröger 2018). Moreover, feminist epistemology and technofeminism are meant to incorporate a practical agenda “for political change and action”

(Wyatt 2005). The level of theoretical, ontological, epistemological and empirical findings challenge the standards, practices and cultures of technological development. And because the dominating scenarios still rest on the shoulders of unreflexive structures, critical feminism is here to decode them. In my talk, I address the means by which technofeminism helps to uncover the limits and to develop pathways towards a more inclusive framework for algorithm critique.

**Why Aren't We Critical Enough? The Role of Information Asymmetry and Interpretive Flexibility in Sociological Critique of Algorithms – Lia Volpe**  
(La Sapienza University of Rome)

In contemporary science algorithms are increasingly influencing knowledge construction, blending into it in chameleon-like and naturalized forms. Sociology has made efforts to problematize the pervasiveness of algorithms in scientific practices, identifying their complex mechanisms, denouncing their distorting effects and critically monitoring their evolution over recent decades. However, the available literature often appears abstract, purely theoretical, and critical in a way that feels tired and disoriented: while offering interesting points for reflection, it often struggles to propose concrete solutions or guidelines that could orient the debate. Furthermore, communication between sociology and computer science is hindered by challenges that require more effective translation and negotiation processes.

This paper suggests two causes as the root of this impasse. The first one is information asymmetry: algorithms, especially in unsupervised systems, are often opaque and complex, even for their programmers, which makes it hard for sociologists to fully understand their functioning and implications. This knowledge gap limits in-depth critical analysis and the development of concrete interventions. The second cause lies in the interpretive flexibility of algorithms: depending on the context, they can be considered and applied in various ways, making it difficult to create a clear and stable understanding of their effects. While this flexibility isn't problematic per se, it complicates the willingness to formulate shared guidelines and practical solutions across disciplines.

Drawing on the Science and Technology Studies (STS) perspective, this paper advocates for better transdisciplinary communication, in order to address the ontological and epistemological aspects of algorithms. While the issue of information asymmetry is urgent, interpretive flexibility presents both challenges and opportunities: it can obstruct effective critique by making algorithmic functioning harder to pin down, but can also acts as a safeguard against closure mechanisms, preventing an increasing naturalization of algorithms and their transformation in Latourian "missing masses".

## 4a: The Rise of the Broconomy: Techno-Optimism, Masculinity, and the Politics of Progress

Roundtable, Friday 12<sup>th</sup> September, 16.00 – 17.30, HG E 26.5

Convenors: Lisa Hillers

*Welcome to the "broconomy" – a world where innovation is hyped, humanity is (supposedly) "saved", and the loudest voices belong to tech bros like Elon Musk, Peter Thiel and Marc Andreessen. This roundtable invites participants to critically dissect the cultural narratives and economic ideologies shaping this phenomenon.*

*Anchored in a close reading of Andreessen's Techno-Optimist Manifesto (and inspired by past group discussions at ZHdK, initiated and led by Dr. Gunter Lösel), this roundtable will explore the hyper-masculine, market-driven mindset behind today's techno-capitalist champions. How do these narratives define progress? What implicit worldviews are at play? And how do they influence public perceptions of science, technology, and the future?*

*In STS spirit, this short presentation followed by discussion will aim to blend critique with curiosity. Together, we'll unpack the myths, contradictions, and power dynamics of the broconomy - and maybe even brainstorm what alternatives to this turbocharged vision of progress could look like.*

### Contributions:

#### **Valences of Techno-Optimism in the Development Patronage of 'New India' – Lindsay Vogt (University of Zurich)**

I enter discussions of the "broconomy" and "broligarchy" based on research that examined the private philanthropic investment of high-tech sector actors in India via the institutional, programmatic, and financial instruments of NGOs and Corporate Social Responsibility (CSR). Specifically, my presentation focuses on articulating the entanglements of tech-sector political authority and its larger consequences to state policies and norms in India with the specificities of ongoing neoliberalization in the subcontinent: While acting as patrons of national development in India, the tech entrepreneurs I discuss rely on a particular idiom of political authority – one which presents them as national heroes with myth-like status based on their association with high-technology and success in global capitalism. Through this particular idiom, fastened tightly into narratives of breaking free from a welfare-state economy, they advance technocratic and neoliberal models of development at key nodes of influence to state power and policy. I emphasize that the charismatic political authority claimed by Indian tech entrepreneur-patrons is a distinctly post-liberalization phenomenon, for liberalization created many registers of capital (economic and cultural) which Indian tech figures call upon to uphold their status. I show, furthermore, how tech heroism reinvests in and amplifies ideals valorized within economic liberalism in its subsequent humanitarian enterprises.

Though my research traced the CSR of Wipro\* and the private philanthropic trust of the Nilekani family (Infosys\* co-founder), and their engagements with

state power at local and national levels, my roundtable contributions contextualize these political configurations in light of a longer history of industrial patronage in South Asia as well as other tech-funded development philanthropy (e.g. the Gates Foundation) more broadly, offering these perspectives as an equally gendered liaison and counter-example to Silicon Valley-based actors and discourses, from Bill Gates to Peter Thiel and Elon Musk.

**Examining the Intersection of Incel and Crypto Bro Phenomena: A Linguistic Qualitative Study of Harmful Ideologies in Cryptocurrency-Focused Communities – Victoria Kozlova (TalTech / RMIT)**

This research draws on a qualitative netnographic observation (Kozinets, 2015) of online interactions within cryptocurrency-focused communities to examine how masculinity, power, and techno-optimism intersect in the construction of Web3 culture. In this research, I investigate how incel-coded language, hyper-individualist rhetoric, and “geek masculinity” flourish in blockchain spaces, often under the guise of innovation, freedom, and disruption.

While Web3 brands itself as decentralised and inclusive, it often reproduces the exclusionary dynamics of Silicon Valley and broader tech cultures (Henshaw, 2022). The anonymous, meme-driven nature of these platforms amplifies masculine-coded behaviours, from confrontational rhetoric to explicit misogyny, ultimately shaping who feels welcome and who is pushed out.

Lexical items like “red-pilled,” “Chads,” and “normies” echo the interpretative repertoire of incel communities and reinforce the exclusionary “us vs. them” mentality. These linguistic patterns act as gatekeeping mechanisms, shaping an exclusive subcultural identity that rewards fluency in irony-laden, often misogynistic repertoires while deterring broader participation. While this study does not claim that crypto communities are inherently incel-aligned, it draws attention to the harm in normalising ideologically loaded terms under the guise of irony (Gothard, 2021). Language, especially in these contexts, is not neutral, it shapes participation, identity, and power dynamics.

## **Speculating, Imagining, Knowing Otherwise**

### **3t: Reproductive Uncertainties and Imagined Futures in the Anthropocene**

**Open Panel, Wednesday 10<sup>th</sup> September, 12.00 – 13.30, KOL-F-123**

**Convenors:** Poonam Kamath, Luminita-Anda Mandache

*Uncertainty permeates every aspect of human reproduction. Humans have tried to control this biological uncertainty through various technoscientific, and sociopolitical measures as illustrated through the vast landscape of assisted reproductive*

*technologies, birth control technologies and related dynamic regulations surrounding their use in the Global South and North. In light of this, following Jasanoff and Kim's (2015) formulation of 'sociotechnical imaginaries' and Ginsburg and Rapp's (2020) reframing using the "cultural work of reproduction" as "reproductive imaginaries", we ask what role reproduction-related technologies such as but not limited to IVF, birth control and sterilization techniques, play in the constitution of particularized contextual 'reproductive imaginaries'?*

*Using reproductive uncertainty as our starting point, in this panel, we ask how these reproductive things and people "hold together" to create or resist change. Given that, reproductive goals change considerably, both at individual and state level, how are 'reproductive imaginaries' informed and in turn inform individual and collective organizing around lived and future lives- for e.g., in the child free and pro-life movements with respect to the climate crises? How do people involve 'reproductive imaginaries' to make sense of their worlds when impacted by the diagnosis of infertility? What salvatory or harmful aspects of these reproductive technologies are highlighted to bring certain 'reproductive imaginaries' to fruition while others are downplayed? And what are the effects of such envisioned futures, both at state and individual levels? We invite papers that contribute to this discussion on the entanglements of state, individual and reproductive technologies in producing "reproductive imaginaries".*

## **Contributions:**

**Reproduction across space and time: single women's fertility preservation in Shanghai and beyond** – Mei Ding, Jianfeng Zhu, Jiaqi Liu, Dong Dong, Rui Jiang (Fudan University, The Chinese University of Hong Kong)

Egg freezing, which used to apply to oncology patients, is increasingly sought for non-medical reasons by women navigating delayed motherhood and relational uncertainty. According to our research, in mainland China, demand for elective and medical egg freezing is rising among single women aged 35 to early 40s. However, under current regulations by the Chinese National Health Commission (CNHC), single women are prohibited from accessing egg freezing in public hospitals with IVF centers, unless diagnosed with cancer or genetic conditions linked to premature ovarian failure. This paper draws on two years of ethnographic fieldwork in two IVF clinics in Shanghai to explore the experiences of single women who seek for egg freezing. It interrogates the socio-political contradictions between restrictive reproductive governance and recent pronatalist shifts—such as policies promoting two- or three-child families and expanded IVF coverage under Shanghai's public insurance. It also shows essentially in the global market, the IVF technology is family oriented. In this context, many single women express a sense of urgency to “act before it's too late,” navigating their ways in China and transnational fertility markets to access egg freezing. By following women's stories, this research asks: how do women make sense of egg freezing within their life trajectories? How is women's reproductive timing reconstructed through the lense of temporature and disembodiment? The paper further argues that while

fertility preservation is framed as empowering, it also reproduces normative ideals of biological motherhood and temporality.

**Voluntarily childless people seeking sterilization in low-birth-rate Finland – Nina Väkeväinen (University of Jyväskylä)**

In Finland, some voluntarily childless people wish to apply for sterilization because they see it as the most suitable contraceptive method for themselves. However, according to the Finnish Sterilization Act (1970/283), a person who does not have significant health reasons for seeking sterilization must be at least 30 years old or must have 3 children alone or together with a spouse. Finnish legislation is quite strict compared to other Nordic countries, where there are no criteria related to the number of children and the age limits for sterilization are also lower (e.g. 18 or 25 years). In the case of women, the availability of sterilization is also affected by the prevailing medical view that hormonal contraceptives prevent many gynecological diseases and menstrual disorders and are also significantly more cost-effective than sterilization.

In this presentation, I examine what sterilization means for voluntarily childless people in 21st century Finland where concerns about the declining birth rate and economic pressures have been constantly present in public debate. I use the concepts of “holistic well-being” and “demographic anxiety” to illustrate how voluntarily childless people often describe sterilization as an event that improves their mental and physical well-being, and how societal pressures related to reproduction can influence individuals' motivations to seek sterilization. My presentation also shows that people who voluntarily choose not to have children often see sterilization as an ethical choice from an environmental perspective, and reflect on their decision in terms of their unsuitability for parenthood. The presentation is based on ongoing doctoral research, which includes 31 interviews and 71 thematic writings from voluntarily childless people, collected in 2021–2022.

**Affective Eggonomies: the role of emotions in holding people and gamete donation technologies together in Germany – Poonam Kamath (Tuebingen University)**

Building families through gamete donation is a highly transactional process-economically as well as emotionally. This paper employs Sara Ahmed's (2004) concept of 'affective economies', particularly her analysis of the cultural politics of emotion to analyse how commercial reproductive service providers in Germany mobilize emotions in their advertising and informational materials to produce specific reproductive imaginaries. These reproductive imaginaries borrow from and feed into culturally sanctioned notions of family-building and kinship- namely of likeness and similarity. This 'knowledge dissemination' via materials distributed at fertility exhibitions and via websites of gamete donor agencies, facilitate particular visions of Kinderwunsch (the German word for the desire to have children of one's own), culminating in the idealized Wunschkind (the desired child).

First, through materials gathered from German Kinderwunsch exhibitions during my ethnographic fieldwork, this paper shows how gendered representations of gametes appropriate popular ideas of gender into scientific discourse regarding human reproduction to reinforce stereotypical connections to emotions of love (as in popular romance) and human performance of gender (as binary- the masculine and feminine). Secondly, examining the marketing material and websites of sperm and egg donation service providers, it demonstrates how gamete donors and recipients engage in a certain kind of affective 'kinning' language to downplay the economic aspect that underlines these biological transactions. It analyses how gamete donation agencies employ distinctly affective language that moves within detached bodies – between donors and recipients- to co-create a shared collective body (figuratively and literally-when a child is born through this transaction) in the Kinderwunsch discursive terrain. Through a strategic engagement with emotions such as love, hope, frustration, desperation, and shame, these 'repro-materials' circulate an affective landscape that hold particular scientific and social imaginaries of human reproduction together in Germany.

**Diffraction Contraceptive Imaginaries: The Interview as a Material-Discursive Apparatus – Adele Moore (Liverpool John Moores University)**

Drawing on the author's doctoral research, this paper explores contraceptive knowledges; presenting the interview as apparatus to enact 'agential cuts' which produce contraceptive realities (Barad, 2001, 2007, 2014). In doing so, the author explores the ways in which contraceptive knowledges are not stable nor objective, but rather, materialised through a series of continuous intra-actions involving human and non-human actants (Barad, 2007). Further attending to that which is not materialised: Barad (2019, p. 542) states, the void is 'an infinite plenitude ... that cannot be disentangled from (what) matter(s)'. By asking how the interview can be configured to attend to the 'nothingness' (Ibid., p. 528) of the contraceptive void, the author traces intra-actions between the various actants, methods, data. Therefore, engaging not only with what is materialised, but also that which constitutes the contraceptive void, attending to the ways representational accounts of contraception collide with and clash against users' embodied knowledge. In attending to these intra-actions, this feminist new materialist study diffracts contraceptive 'providers' and 'users' knowledges; reading their stories, experiences through and against one another to map the disruptions and ripples created by the clashing of waves. This research does not work to resolve or dissipate the tensions between the various contraceptive actants, but rather propose a diffractive reading of contracepting as a series of intra-actions. Thus presenting a contraceptive imaginary which acknowledges the entanglement; attending to contracepting as a dynamic, lively process, destabilising the authority of scientific information to diffract readings of embodied, experiential knowledge through and against it.

### 3I: Thinking through incompleteness

Open Panel, Thursday 11<sup>th</sup> September, 9.30 – 11.00 & 11.30 – 13.00, HG E 26.5

Convenors: Sabrina Stallone, Nitin Bathla, Jon Schubert

*Incomplete projects and artifacts abound, from unfinished buildings and infrastructures, creative, or academic projects in development limbo, to technological access impeded by sanctions. Such incompleteness is often depicted as an obstacle to overcome, and analytically approached as manifesting capitalist debris or collapsed futures. Going against the grain of these depictions, this panel seeks to explore how incompleteness harbours political and analytical potential, not least to overcome Western-centric notions of failure and dysfunction. Embracing incompleteness as a method directs our attention to potentiality and the productive nature of gaps, cracks, and ragged edges, vacant lots that are not yet fully overdetermined but leave space for speculating on yet-to-be-built futures. Thinking through incompleteness as method, we are interested in shedding light on how things, relations and narratives are "held together" even in scenes of material interruption and uncertainty.*

*Specifically, we invite papers that seek to understand material incompleteness along the lines of speculation, futurity, and the otherwise. Speculation points to capitalism's 'spatial fix' and the need to enclose ever-receding 'frontiers': How does incompleteness open to futures beyond the techno-managerial imaginaries that initiate speculation? Our second keyword gestures towards the tyranny of completion, the increasingly authoritarian domination of the future through planning that entails the aim to dominate bodies and lives. Finally, the otherwise directs our attention to the kinds of 'creation' incompleteness requires: the many hands that dig in the soil, scavenge copper cables, connect 'illegally' to power grids and tinker with molecules and materials to work with and around incomplete things.*

#### Contributions:

#### Session 1 Thursday 11<sup>th</sup> September, 9.30 – 11.00

**The Politics of Incompletion: Governmental Practices and Infrastructuralizing Food Market in China – Ziqiu Ren (University of Manchester)**

While recent work on infrastructural incompleteness has been rooted in contexts of weak governance and constrained capacity, this paper shifts the empirical and conceptual lens eastward. This ethnographic study of two food markets in China explores the dialectic between completion as a celebrated aspiration and incompleteness as a covert strategy within the ever-present process of state-led infrastructuralization. China's food markets reflect the state's dual vision of infrastructural futurity—on the one hand, the aesthetic modernisation of the urban facility; on the other, the systemic integration of agri-food distribution. The findings reveal two manifestations of incompleteness in marketplaces: heterogeneity and provisionality. Although open-air spaces and informal vending practices fall outside the standardised framework and indicate the incompleteness of purported infrastructural efforts, their persistence

is not (only) incidental but sustained through modes of ambiguous and selective practices of local authorities. In the Chinese case, state capacity is dense, hierarchical, and evaluative. Rather than as a failure to act, the incompleteness emerges as a calibrated form of governance flexibility that enables infrastructural 'progress' to be perpetually claimed, while avoiding the closure that would foreclose future interventions, investments, or corrections. Through illustrating the ambiguity and inconstancy in policy making, implementation and supervision, this paper investigates 1) how infrastructural incompleteness is governed, sustained, and rendered legible within the modernisation logics of a strong developmental state; 2) what the ambiguous infrastructural statuses of Chinese food markets reveal about the performative contradictions of state-led infrastructural progress. Tracing these nuanced tensions helps reveal the inherent messiness of governmental practice. Theorising from food markets, this paper rethinks the notion of "incompleteness" in the Chinese context, where a strong and programmatic governance regime gives infrastructural incompleteness a distinct political valence. In doing so, it complicates and extends the analytical reach of Southern urban theory.

### **Snow Leopard in the Ecology of Signs and Contemporary Ladakh, India** – Padma Rigzin (Shiv Nadar Institution of Eminence (SNIE))

Big cats have been symbolically crucial across time and space, and snow leopards are no exception. However, there is a particular context of nascent conservation and tourism practices and incomplete political changes in Ladakh (India), which presented the condition for snow leopards to emerge as emblematic symbols of the socio-ecological dynamics of Ladakh. Tourists come from far-off continents to Ladakh to see the snow leopard, the 'mythical' creature of the Himalayas. Guides and spotters use fragmented snow leopard scraping and pugmarks to search for the feline, in addition to using binoculars to scan the landscape for the feline. Moreover, Leh district's police commissioned a snow leopard statue in 2015 in Leh as a memorial for police personnel who died in the line of duty, an incomplete tribute to the loss. Drawing on Eduardo Kohn and Hannah Knox's idea of the ecology of signs, I attempt to bring incomplete gaps into view by tracing the intermingling of incomplete signs like scrapings and statues, influenced by conservation sciences, and noting what this entanglement tells us about contemporary Ladakh's more-than-human social life. Based on 18 months of fieldwork in Ladakh, I argue (or speculate?) that instead of showing failure, these gaps indicate the yet-to-be-made futures of the socio-ecological landscape of Ladakh, where symbolic representations and multispecies encounters are held together amid uncertainty and interruptions.

### **Forever incomplete: Keeping a master plan alive** – Jonas Köppel (Universität Bern)

In this presentation I will tell the story of a master plan that never succeeded nor failed. Rather, it died with its author and thus will remain forever incomplete. What are the implications of such a status, of a permanent in-between? My argument will be that it keeps alive the promise of the

superlative: that there can be - and might yet come about - an ultimate solution. Quite paradoxically, it thus reinforces the definition of the problem. The plan I will talk about was made by engineers with a political conviction. In particular, Juan Carlos Montenegro was convinced that the country he called his home - Bolivia - was the way it was because of its natural resources. More specifically, he understood that its history of exporting raw materials had kept his country in poverty. This is what he called extractivism, and to overcome it indeed required a master plan. Lithium offered the opportunity he had been hoping for: it was new and unconventional and in high demand; and Bolivia had a lot of it. The plan was to build a whole industry around it that would produce much more, not just lithium. It was not his plan alone, but had become part of an entire government, along with Juan Carlos. Yet, before it could be put into practice - before the whole industry could be built - the government fell. It got up again later, with other plans for lithium. Juan Carlos could not. He died, for his plan to remain alive.

## **Session 2 Thursday 11<sup>th</sup> September, 11.30 – 13.00**

### **Climate models: shiny, yet incomplete – Ulrike Proske & Lieke Melsen** (Wageningen University & Research)

Global climate models hold a powerful position within climate science, but also influence policy making and societal imagination. Much of their authority rests on the knowledge integrated in the models' code formulation, as well as on their apparent universality, with the recent trend towards km scale resolution making their results appear ever more realistic.

However, behind their shiny outward appearance, on the inside of model development incompleteness manifest, which we foreground in our case study of the ICON climate model. Most apparently, the model code contains coding mistakes, so called bugs. Other instances of incompleteness are supercomputer nodes breaking down, or inherent model instabilities that require restarting a simulation regularly. Thus, what promises to be a finished simulation product on the outside is much more messy, buggy and clearly unfinished on the inside.

We resolve this contrast with reference to Paula Bialski's concept of "good enough" coding. The idea of developers going for a "good enough" model highlights that they think of the model as complete enough for now, but also acknowledge that the model is never finished. Thus, thinking of the model as "good enough" allows the model to be deployed despite its incompleteness.

Focusing on bugs and other manifestations of incompleteness challenges the image of climate models as universal tools with global coverage and the techno-managerial imaginary of digital twins of the Earth system.

Furthermore, the incompleteness can even be viewed as what drives science forward, as some interviewees highlighted bugs' role in challenging and expanding their scientific understanding.

### **Garments in Waiting: Incompletion, Refusal, and Material Futurity in Istanbul Wardrobes – Ecehan Aygöl Gönül (Istanbul Technical University)**

This paper explores how garments that linger; unworn, unaltered or undecided, become sites of material incompletion that resist fast fashion's mandate of rapid circulation and disposal. Drawing on fieldwork with young adults in Istanbul, I examine how clothing accumulates in wardrobes not as waste, but as suspended objects imbued with affective, ethical, and temporal tensions. These items are not yet discarded, yet no longer in use. They remain unfinished, both materially and narratively and refusing resolution into obsolescence or renewal. Rather than treating this incompletion as dysfunction, I argue that it opens up alternative futurities like slow detachment, hesitant repair, and speculative transformation. Participants engaged in practices of keeping, hiding, or imagining partial alterations acts that reflect a politics of delay and material care. These gestures reveal an intimate entanglement with garments as agents that resist planned obsolescence and disrupt capitalist time.

In a city where formal systems of textile reuse are patchy, and where donation or resale infrastructures are fraught with distrust or inefficiency, the material persistence of clothing also indexed infrastructural incompletion. These garments remain, not out of neglect, but because systems of disposal, repair, and redistribution are themselves fragmented.

Through the lens of new materialism and posthuman care, this paper repositions incomplete garments as speculative infrastructures, held together by emotion, memory, and improvisation. They embody a refusal of techno-managerial resolution, and a quiet proposal for the otherwise: futures lived in the seams, and resistances of fast fashion.

### **Radically Sounded Incompleteness: Incommunication as Method – Mona Hedayati**

Resonant Atmospheres is an art, science, and technology studies project that investigates how the fractured, affectively charged experience of exiled migration might be incommunicated, rather than communicated. Drawing on methods from STS and artistic research, the project uses wearable biosensors to register participants' physiological signals and transduces them into atmospheric yet affective live audiovisual form as a speculative mode that resists subject-centered storytelling to redistribute affective experience across a shared field. This approach resists the reduction of migration to a knowable condition and the migrant as a known subject, critiquing the right to knowability and controllability that comes with individuation. Incommunication is thus the central method that foregrounds interruption, latency, and partial interaction. Building on David Cecchetto's account of incommunication as the convergence of "aesthetics, affect, and excess" (2022), and drawing from theories of excommunication (Galloway, Thacker, and Wark 2013), incommunication is neither miscommunication nor communicative failure. It names the circulation of intensities that exceed semantic capture, taking shape in the relational field as an autonomous way of embodied sensory exchange. Rather than framing biosensors as blackboxed apparatuses of

emotional capture as claimed by the field of affective computing, the project use them subversively to unsettle totalizing technological narratives. In doing so, it mobilizes incompleteness (Moten and Harney 2021) as a ground for making spaces against the presumption that knowledge must be extracted through distanced processing and logical analysis. Instead, the project affirms fractured, partial, and situated modes of being-with, in which affective intensity creates conditions to sense and feel rather than cognize.

### **3p: How myths and stories are holding things together in times of trouble**

**Open Panel, Friday 12<sup>th</sup> September, 14.00 – 15.30 & 16.00 – 17.30, HG D 3.3**

**Convenors:** Marc Audétat, Stéphanie Missonier, Estefania Amer Maistriau, Colin Pahlisch, Baroni Raphaël

*Any society rests on myths. Myth and its multiple stories support everyday commitment and agency, make sense of life and tomorrow. Until recently, the promise of progress was binding the short term, besides its costs and secondary effects, with the certainty of improvements in the long term. The sacrifices made by a generation were justified by the betterment of its children. Material progress founded the belief that capitalist industrial society is the endpoint of evolution, and that technology is the driving force of the economy and society. Stories are holding time, and people, together.*

*What happens when certain stories cease to play this role? After decades of neglect, maybe because progress was precisely not considered a myth, but taken as "real", the role of future stories has been reconsidered. For instance, tech managers in need of revamping faith in progress have increasingly used story telling (but is it possible to make progress great again?). The fiction industry has produced countless of catastrophic futures. What is the role of stories in sociotechnical imaginaries? What are the stories, or literary genres, which help to stay with the trouble?*

*This panel stems from a four year project that is going to investigate stories conveying technosolutionism, post-apocalyptic futures, and the use of fiction to steer the ecological transformation. It invites papers dealing with stories, their sociotechnical imaginaries, their performativity in holding things together or in supporting agency, the use of STS in fiction work, or the place of stories in STS.*

#### **Contributions:**

**Session 1 Friday 12<sup>th</sup> September, 14.00 – 15.30**

**The quest for a sociotechnical imaginary that is credible and desirable at the same time – Marc Audétat (University of Lausanne)**

Initiatives, by civil society organizations, state bodies, private enterprises, schools and universities, museums, and theatres, inviting people to write

collective scenarios of desirable futures have multiplied. They are meant to look beyond, and, if possible to re-enchant the future, in any case, to help overcome the pessimistic present time. The ecological predicament, the economic inequalities, the disruptive innovation that brings no progress, the dystopian promises of AI, the pandemic, the return of the war in the global North, and that of forms of fascism, have exposed societies (western?) to a depressing prospect. Old narratives of justice, democracy and progress seem to fall apart.

The polarization of sociotechnical imaginaries, which started long ago, is taking a dramatic turn. At both ends of a spectrum, extreme narratives have acquired more influence: the collapse and its post-apocalyptic tone reflected in the fiction industries, and, the bigoted technology and capitalist accelerationism also presented as inescapable. In the middle, moderate imaginaries like ecological modernization, sustainable development, and technosolutionist narratives and scenarios like clean tech, green energy, green new deal, are losing credibility.

By studying the current need to imagine "the day after" and compose desirable futures, this paper intends to raise the following questions: how to study sociotechnical imaginaries (Jasanoff, 2015), including empirically?, what is the map of shared and performed imaginaries? What sociotechnical imaginaries do in the sense of supporting or in the contrary discouraging agency? And, is there a grand narrative that may reconfigure agency (Citton, 2009)? In what consist a narrative that reconciles reason and emotion, that connects facts and fiction, conveys at the same time interests and values? Finally, is it possible to have both re-enchantment and credibility? Is a desirable future meaningful if we do not include the process to reach it from where we are now?"

### **Technocentric Imaginaries Among First-Year Business Students: An Exploratory Study** – Hans Durosier, Estefania Amer & Stéphanie Missonier (University of Lausanne)

This paper explores the imaginaries articulated by first-year bachelor students at HEC Lausanne through a mixed-methods analysis. Despite their expected role as future leaders, little is known about how these students envision the future particularly how they see technology addressing global issues. This study addresses that gap by examining how they imagine the future of society through predominantly technocentric perspective. Drawing on Science and Technology Studies and the concept of sociotechnical imaginaries, it explores visions of future expressed by these students.

We evaluated 324 handwritten letters by first-year bachelor students at HEC Lausanne in 2025, produced in a deliberately non-digital setting to capture imaginative expression, free from AI assistance. The methodology draws on the "Letters from the Future" narrative approach, which invites participants to envision a desired future and write to their present selves.

Preliminary findings reveals a predominance of technocentric imaginaries of the future, including technosolutionist scenarios, in which technology is seen

as the main answer to social and ecological challenges; technofuturist scenarios, which project a future profoundly reshaped by disruptive innovations; and scenarios characterized by a form of techno-resignation in which technological transformations are perceived as inevitable and give rise to concerns, a loss of bearings and/or disenchantment with regard to their effects on social and daily life.

This study challenges dominant narratives about innovation, which are often based on the assumption of spontaneous and enthusiastic acceptance of technology. It shows that technology is not systematically perceived as a promise of progress, even by future economists and managers.

**Image Politics of Techno-Ecological Futures: Visual Orders of Technology and Nature in Denis Villeneuve's Dune (2021/2024) – Larissa Lenze (Universität Paderborn)**

Denis Villeneuve's Dune film series (2021/2024) unfolds a dense visual narrative of technology, nature, and planetary ordering. As an internationally successful blockbuster, Dune functions not only as entertainment but as an aesthetically condensed platform of popular knowledge and future-making. This paper reads the films as discursive artefacts that do not merely depict technopolitical narratives but aesthetically structure them. Drawing on Roland Barthes' concept of myth, the analysis explores how visual storytelling generates, stabilizes, and legitimizes mythic orders of meaning.

The focus lies on four dominant visual myths: (1) the desert planet Arrakis as autonomous and untouched nature, (2) the aestheticization of indigenous technology as original and sustainable, (3) Paul Atreides as a techno-messianic individual actor, and (4) the supposed inevitability of a planetary resource war. These narratives are realized through cinematography, color dramaturgy, landscape composition, and body aesthetics, functioning as cultural meaning patterns that legitimize power relations and visually normalize technological future imaginaries.

The analysis combines myth-critical media aesthetics with key concepts from Science and Technology Studies, including sociotechnical imaginaries, technonaturalization, and technosolutionism. Dune is approached as a visual platform on which central societal questions – concerning technological design, ecological order, and governance – are not only negotiated but aesthetically modeled.

Finally, the paper examines how the films' iconographic motifs and visual codes reappear in contemporary media discourses—such as in the self-imagery of tech- and defence-corporations, the visual rhetoric of economic and climate summits, or media portrayals of climate change and resource conflict. The study shows how cinematic narratives of technology and nature are translated into real-world image politics and strategically mobilized across different sociopolitical contexts.

**Bright promises. How solar stories would save the world – Colin Pahlisch (University of Lausanne)**

In the face of the climate crisis, we often hear that salvation will come from stories. But which ones? While the dominant vision of the future is largely catastrophist, many artists are seeking to reinvest past imaginaries to breathe new life into ecological commitment. Solar Punk is a model in this respect. We're going to take a look at some of the fictions that claim to be part of this genre, to assess both the way they describe and question our world, and their possible role in the ecological transformation of society.

To do this, we'll be drawing on theories of the fiction of possible worlds, as well as theories of socio-technical imaginaries. Through a transnational study of contemporary Solar punk narratives (North America, South America, and Europe), we will examine how this particular imaginary allows us to question the ecological, energetic, economic and political stakes of the Anthropocene, and perhaps propose a more appeased, or at any rate, more resilient conception of it.

## **Session 2 Friday 12<sup>th</sup> September, 16.00 – 17.30**

### **Telling Old Stories in New Ways: Memory Continuity through Digital Platforms at the Fête des Vignerons – Tatiana Smirnova (University of Lausanne)**

The Fête des Vignerons, a centuries-old winegrowers' festival in Vevey, Switzerland, is both a cultural performance and a transmission device for collective memory, local identity, and shared values. Traditionally organized once per generation, it is inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity. However, as the celebration entered the 21st century, digital technologies—social media, datafication, and new modes of cultural production—began to transform how the event is remembered, interpreted, and imagined.

This case explores how digital transformations themselves introduce “times of trouble” for cultural transmission and collective identity, raising uncertainties about whether and how the celebration will continue in the future. As online memory practices evolve, older forms of storytelling and participatory heritage face challenges of fragmentation, shifting publics, and changing expectations. At the same time, digital media offer new opportunities to sustain myths and stories, reconfiguring what it means to “hold together” a living tradition in a rapidly changing world.

This paper draws on qualitative research, including on-site and online ethnography, to examine how the Fête des Vignerons navigates the tension between continuity and change, tradition and innovation, and between the desire to preserve and the imperative to adapt. It argues that such cultural events offer valuable insights into how communities manage uncertainty and co-produce narratives that connect past, present, and possible futures.

## **Untying of the soul in techgnosis? An isomorphic examination of the metaverse and Gnosticism - Yan Qiao, Xu Xu**

Gnosticism, a key epistemological and cultural force since the late Middle Ages, has resurfaced as a significant postmodern ideology. The metaverse, emerging within postmodernity, shares Gnosticism's anti-foundationalist and anti-naturalist paradigms through its data-driven, polycentric structure. Both arise from human dissatisfaction with traditional cosmic orders and serve as spiritual responses to crises of belief and meaning. This study proposes that Gnosticism and the metaverse are united by a transhumanist orientation and investigates their shared roots through hermeneutics and comparative analysis across Chinese and Western contexts. We argue that the metaverse constitutes a form of contemporary techgnosis, grounded in a hierarchical dualism that challenges the ethical foundations of postmodernity. Finally, the study connects religious archetypes with cybernetic ideology and posthuman imaginaries, suggesting that esoteric and intuitive epistemologies offer critical alternatives to dominant rationalist and instrumental frameworks in technology discourse.

## **Myth's Methods, Technology's Futures, and Critique's Body – Philippe Sormani (Zurich University of the Arts)**

Drawing on heuristic reenactments of video demonstrations of information technology – “new IT” in the domains of “artificial intelligence” (AI) and “extended reality” (XR) –, this paper explicates the tacit reliance of technology's futures on embodied practices – in short, its myth's methods. Therefore, the paper examines the socio-technical promises (Audétat et al. 2015) showcased in and through selected video demonstrations by leading IT companies (e.g., Meta, OpenAI). How does probing “new IT” through embodied reenactment exhibit the “distribution of the sensible” (Rancière 2000) tacitly folded into the IT industry's video demonstrations of recent AI- and XR-labelled technologies? How does the reenactment of those demonstrations contribute to a reflexive explication of technology's future(s) projected by those video demonstrations? And what role does embodiment – enacted, reenacted, reanalyzed – come to play as a vehicle for critique – in short, what is critique's body? As an ethnomethodological respecification of STS interest, the paper leverages its video reenactments to offer an empirical probe of Rancière's critical aesthetics as a temporally unfolding, partly articulated, and distinctively technical ensemble of “multimodal Gestalts” (Mondada 2024). In doing so, the paper tackles the panel's leading question – “how myths and stories are holding things together in times of trouble” – by leveraging “trouble” both as an analytic resource (i.e., a way of making explicit assumptions baked into present projections of “The Metaverse,” 2021) and an empirical topic (e.g., the ecological opportunity cost of “generative AI” as a recurring yet noticeable absence of promotional discourse). Normatively, the paper asks to what extent “new IT” escapes “contemporary nihilism” (Gurwitsch 1945) or nurtures a sublimated version thereof, a newly pernicious combination of manipulative psychology and arguably relativistic technology – and: what might embodied alternatives to “fiction industry” mainstream look and feel like?

# **Living with, in and through Vital Spaces & Relations**

## **3g: Microbial STS and Moving Beyond Critique: How Things Hold for Future Studies**

**Open Panel, Thursday 11<sup>th</sup> September, 9.30 – 11.00, HG D 3.3**

**Convenors:** Maya Hey, Jose A. Cañada

*This panel examines microbes as analytical objects and the challenges their analyses bring. For one, microbes are ever-changing critters. Physically speaking, microbial populations shift, evolve, and adapt in ways that complicate social scientific study (e.g., ethnographies of antimicrobial resistance and infectious disease control evince this hauntingly). But even conceptually, a so-called microbial turn has critiqued the sole pathogenic ontology of microbes, and renewed attention towards microbes sheds light on the probiotic, interdependent, and entangled relations in-and-through human-nonhuman naturecultures (e.g., fermentation, compost, and algal relations demonstrate this aptly). Microbes also change research approaches. Stepping out of biological laboratories evinces the need to consider their way of being in human society: they are both everywhere and ‘invisible’. In turn, their social scientific study requires trans-disciplinary and participatory collaborations with partial perspectives and differential expertise.*

*With growing scholarship in STS studying microbes, this panel invites papers that address the theoretical, methodological, and shared challenges that come to a head now, when studying microbes. We aim to move beyond the critique of microbes being good/bad, or that microbes cannot be separated from their research infrastructures, environments, or politics. Rather, this panel focuses on the specificities and complexities that follow when centering microbes through STS-inflected inquiry. STS has been holding together various tools for studying microbes ‘otherwise’: whether studying microbial assemblages, or analysing microbiopolitical relations, or making-and-doing with microbial metabolisms. This panel aims to move the conversation forward: what does it mean for STS’s critical and normative commitments to shape future microbial study?*

### **Contributions:**

#### **Some suggestions for a viral turn – Margrit Shildrick (Stockholm University)**

My paper focuses on a demystification of viruses - as a specific form of microbial life - that are seen, unlike bacteria, in almost exclusively negative terms. There is little sense of a ‘microbial turn’ that might rehabilitate viruses despite their necessity for the evolution of human/non-human naturecultures. The advent of COVID-19 and other major outbreaks such as so-called bird flu, which has affected both wild and domestic populations, is widely characterized as an aggressive onslaught of external bioagents that must be

countered by defensive strategies. A better understanding would be as a complex series of multispecies encounters shaped by humans, non-human animals, and viruses. Rather than wholly formed individual entities being in conflict with would-be invaders, they are always already produced out of millenia of previous encounters, mergers and entanglements. Not all such meetings are beneficial, but the condition for any species' thriving lies in its dynamic openness to otherness.

For many, the very term 'virus' most likely evokes an online or computer glitch, an invasion into the machinery of communication, rather than an intervention in living bodies, but both arenas are invested with similar metaphorical expression that speaks to the transcendence of disciplinary silos. Biology and technology are interwoven and embedded in a complex socio-cultural, political, environmental and philosophical discourse that moves beyond singular causes and rejects conventional binary responses and the crude attribution of positive and negative effects. In expanding on some contemporary trends in the micro-biology of viruses, it becomes clearer why biotechnological analyses matter.

**The living marmosets: On yellow fever virus and new metaphors for writing life in Sergipe, Brazil – Tullio Maia (University of Amsterdam)**

In 2017, Brazilian authorities confirmed a yellow fever epidemic in the south and southeast regions of the country. A viral mosquito-related disease, yellow fever affects humans and nonhuman primates, especially howler monkeys (*Alouatta* sp.). The latter die at a high rate from yellow fever infection, with their corpses a material evidence of the viral. In the northeast, there is no evidence of yellow fever circulation. There, the distribution of howler monkeys is limited, and the common nonhuman primate considered in epidemiological practices is the white-tufted marmoset (*Callithrix jacchus*). In this paper, I discuss elements of an ethnography I produced in Sergipe, a state in the Brazilian northeast, in 2022. There, I investigated institutional practices around the surveillance of yellow fever, especially the monitoring of marmosets. The viral monitoring is constrained by economic and ecological reasons, including the marmosets' successful capacity to heal from a yellow fever infection. These characteristics make these animals poor resources for epidemiological surveillance. But what other questions can be addressed to the living marmosets in the scenario of yellow fever emergence? I engage with this question by exploring conversations with scientists and veterinarians about marmosets' immunity. For example, they understand marmosets as protecting the forest from yellow fever. I connect the idea of an immune forest to notions of immunity and community, as well as to ethnographic studies of viruses. By doing so, I reflect on viruses and living marmosets as good metaphors for writing life in a yellow fever emergence scenario.

**Sensory Methods for Knowing Microbes Otherwise** - Maya Hey, Jose A. Cañada (Hyytiälä Collective, Helsinki University)

As part of a 'microbial turn,' this paper calls attention to some methodological limitations of studying microbes who, as their name implies, are difficult to see by the unaided human eye. Of course, microbes have been known in various ways long before the invention of the microscope, most of which have been relegated to the shadows of scientised knowing. The implications of expanded methods are thus political: to engage other senses in microbial knowledge production can simultaneously nuance the type of data collected, diversify the range of interlocutors included, and enable access heretofore blocked by resource-intensive or institutionally restrictive settings for research. Drawing on examples that span various species and fieldsites, we explain how an arsenal of sensory tools can offer insights on different configurations with/in microbial worlds and who can lay claim to microbial knowledges, where, and by what means. Situated in-and-adjacent to STS, we see the need for and the opportunities of deprivileging sight/science for making sense of microbes. As non-technical researchers studying microbes in various settings, we argue for an expanded set of tools, beyond sight and laboratory science, to know microbes otherwise. This paper contributes to ongoing STS discussions about the onto-epistemological knots in knowledge production, while also providing new ways to pursue STS research of more-than-human interactions and more-than-representational ways of worldmaking.

**Small Manipulations: Addressing Asymmetry in Microbial STS through Culinary Worlds** - Taeko Hamada, Joshua D Evans, Samantha Breslin (University of Örebro, Technical University Denmark, University of Copenhagen)

STS and cognate fields have advanced relational ontologies that recognise the agency of all species, including microbial beings. A subsequent challenge is how to account for partially asymmetrical relations between actors, in between extremes of total control and total flatness. We offer one approach to navigating this challenge, by developing 'manipulation' as a way to describe and theorise these in-between asymmetrical relationalities. Drawing on ethnographic fieldwork at a Copenhagen restaurant, the paper traces how the chefs and food scientists working together in the test kitchen 'manipulate', in their own terms, their tools, ingredients, and imaginaries by repurposing technology, negotiating with microbes, and optimising 'naturalness'. These culinary manipulations are not the conventional, 'big' manipulations of psychosocial control, typically associated with interpersonal dominance, but rather 'small' manipulations in which relations between human and nonhuman actors are asymmetrical but not totalising. This latter kind of manipulation, the paper suggests, offers one way to make sense of these in-between relationalities in many empirical sites, and contributes to literatures in multiple branches of science and technology studies and adjacent fields. As microbes have evidently revealed—both physically and conceptually—the impossibility of a catchall analytical solution, 'small' manipulation is also not an exit for all discussions of sociomaterial relations. Instead, it opens up much needed STS-inflected discussion of, as this panel rightly and sharply asks, how the

specificities and complexities of microbial relations can be examined. The paper thus explores three possible forms and dimensions of 'small' manipulation in our empirical case, each of them illuminating different dimensions and degrees of symmetry and asymmetry.

**Ongoing Song: fermentation and living with microbes – Maya Hey**  
(Helsinki University)

Fermentation is a hands-on practice for making sense of microbes. But attempts to study human-microbe relations in fermentation tend to focus on the product (over process), to take probiotic-ness as an inherent and stable good (versus contingent), and/or limit the scope to an auto-scale of self-analysis.

Based on an ethnography at a natural sake brewery in Japan, and with theoretical commitments to feminist technoscience, this presentation departs from these starting points to examine the ways in which brewers navigate microbial temporalities, microbial uncertainty, and the multiple ways of knowing microbes through practice. Through an analysis of the brewing process, its environments, tools, rituals, seasonality, and know-how, I show the more-than-human entanglements at the scale of a business venture. Uniquely, this brewery does not add vials of yeast and bacteria like an ingredient; so the work of brewing entails perpetually creating conditions for ambient microbes to gather—and only certain microbes, at certain stages, in certain sequences. By accounting for this living world and its specificities, the brewers must attune, adapt, and ascertain which microbes need what and when. They practice what I call 'degrees of knowing' and 'knowing enough,' which is at once a critique of the dominant scientisation of microbial knowing, as much as it holds the tension between the time and tools used to know microbes. They also practice what I describe as an improvisational ethic that adapts to the unforeseen, which extends current discussions on response-ability to enabling constraints and adapt-ability.

## **1b: Re-enchanting Wounded Worlds: Fermentation, Decay, and Interspecies Grief in Post-Violated Landscapes**

**Experimental Format, Thursday 11<sup>th</sup> September, 14.30 – 16.00, HG E 26.5**

**Convenors:** Monika Gabriela Dorniak

*This experimental panel, featuring a joint 60-minute lecture performance, brings together artistic research projects that focus on human-decentred approaches to memory studies and indigenous cosmologies. It explores how landscapes –fractured by catastrophe, nuclear testing, extraction, and war– can be re-encharnted through the generative powers of decay, sound, poetry, breathing, fermentation, and interspecies dialogue. Traversing Amazonian and West-German fermentation practices, Andean necropolises, post-hurricane Polish forests, a nuclear testing site in Kazakhstan, and the very air we nurture, we ask: how do more-than-human*

*agencies and world-making practices help us sustain lives and lands marked by loss?*

*These threads converge in an experimental lecture performance that interweaves molecular presence, olfactory landscapes, and interspecies grief. Through scent, sound, and touch, the lecture performance unsettles anthropocentric notions of agency and memory, inviting participants to experience the enduring echoes of environmental trauma and the possibilities for collective healing.*

*Together, these projects propose that holding fractured worlds together requires us to listen to the generative murmurs of decay, fermentation, material witnesses, and more-than-human kin — re-enchanting our relationships with landscapes, histories, and futures in the face of uncertainty. The session will begin with a 60-minute multimedia lecture performance, collaboratively created by the participating researchers, followed by a moderated Q&A with the presenters, offering insights into the individual works and perspectives of each artistic researcher.*

### **Participating Artistic Researchers & Contributions:**

#### **Breathing Otherwise: Air as Relational Commons and Material Witness – Mariangela Beccoi**

Often assumed to be the most elemental and universal of commons, air has long been entangled in structures of control, dispossession, and commodification. Drawing on decolonial theory, feminist materialism, and atmospheric humanities, this performative lecture explores air as material witness—an active archive of environmental violence, injustice, and resistance. Rather than a neutral backdrop, air emerges as a dynamic medium, transformed under colonial-modern logics from a relational matter into a regulated and extractable resource.

Colonial frameworks such as terra nullius and res nullius have rendered air, like land and water, occupiable and exploitable. This occurs through material processes like pollution and zoning, but also through political decisions that determine whose breath matters. Breath, then, becomes a site of negotiation between biological survival and political possibility.

Approaching breath as more than a physiological act, the lecture frames it as a relational and political practice shaped by exclusion and governance. Building on Achille Mbembe's call to recognize the right to breathe as foundational, the lecture reimagines the commons not as a resource to be managed or administered, but as a relational form of world-making. Air becomes a commons of entanglement and mutual responsibility, connecting beings, memories, and ecologies.

Rather than seeking to restore a lost purity, the focus remains on air's saturated materiality—its residues of decay, toxicity, and memory. Breathing becomes a practice of attunement: a way to register harm, hold space for grief, and sustain the possibility of more attentive, entangled futures.

**T1/2: A sound-art project about the legacy of Semipalatinsk Nuclear Test Site – Kamila Narysheva & Vicky Clarke**

T1/2 (Half-Life) is an interdisciplinary sound art project by Kamila Narysheva and Vicky Clarke exploring the acoustic memory of the Semipalatinsk Test Site, a former Soviet nuclear testing ground in northeastern Kazakhstan. Between 1949 and 1989, this site witnessed over 450 nuclear tests, leaving a legacy of environmental damage and human suffering. T1/2 uses sound to engage with this haunted landscape, transforming field recordings of soil, water, air, and architectural remnants into a sonic experience.

Initially presented as an installation in Almaty, T1/2 employed a minimalist setup, with only a subtle blue light evoking Cherenkov radiation. These recordings, processed using MaxMSP and Max for Live, decay in alignment with radionuclide half-lives, creating a sonic environment where memory and decay coexist.

T1/2's approach to sonic archaeology reveals traces of trauma while also capturing signs of ecological resilience. The project challenges dominant narratives of the site, proposing a decolonial perspective that acknowledges both its suffering and its capacity for recovery.

**Unearthing Chacoma: Mining and Archaeology as Disruptions of the More-Than-Human – Paola Bascón (Goldsmiths University of London)**

This lecture is an invocation, drawing on tangible matter and speculation: Matter as dust—from a wounded underground landscape—whispers a real story of plunder. Mixed with wet clay, the dust is given to the listeners to grasp history through their fingers. Speculation intervenes to fill the gaps of what has been erased, enabling mineral remains to narrate a story of 'huaqueo'—extractive profanation.

Exploring the intersections between mining and archaeology, the lecture recounts an artistic dialogue developed by Paola Bascón with the underground Pre-Colombian necropolis of Chacoma. Unearthed in 2018 due to mining activity in the Viacha Municipality of La Paz, the necropolis lies within a territory inhabited by both 'archaeological remains' and ongoing mineral extraction. The underground chambers of the necropolis had already suffered multiple acts of looting ('huaqueo') before the official archaeological discovery in 2018—how many objects were stolen remains unknown. 'Huaqueo' signifies both plunder and profanation, describing not only the desecration of tombs but also reflecting an enduring system of extractive violence inflicted upon the Andes for over five centuries—where mineral bodies, from mountains to artefacts and the dead, have been relentlessly reduced to sites of resource extraction.

Invoking more-than-human entities of minerals and the dead through dust, this experimental lecture employs material activations, storytelling, and sound in an attempt to reclaim mourning as a tool for the recovery of historical memory and present-day denunciation.

### **Lack of Forest: Art, Mamory and Ontological Reworlding in the Damaged Land – Martyna Miller (Ruino Ruido Foundation)**

Lack of Forest is a land-based artistic and research project situated in the post-hurricane landscape of Bory Tucholskie, Poland. In a region marked by ecological devastation and historical trauma, the project intervenes in the land through community-engaged practices and the creation of a commemorative land art installation known as the Mound—a structure made from uprooted trees and roots. The Mound serves as an autonomous meeting place that helps to reestablish and enact telluric connections while confronting and challenging both local and planetary perspectives.

Through observation and participation in processes of decay and overgrowth, Lack of Forest becomes a world-making practice that explores how communities navigate loss, precarity, and transformation. The project engages with the liminal presence of a forest that both exists and is absent, raising ontological questions of being, belonging, and care. It seeks new cosmogonies and relational systems within post-war, post-Soviet, Eastern European cultural contexts, drawing parallels between ecological regeneration and collective healing in the face of intergenerational and environmental trauma.

### **Pajmuri: Thinking life, healing and fermentation in the Amazon rainforest – Oscar Perdomo**

The active creation of life and land through interspecies thought and the physical coexistence of different worlds are two central elements shared across the heterogeneity of Indigenous groups in the Colombian Amazon basin. Among the Desana people, this relationship is articulated through the concept of pajmuri, which can be translated as "fermentation." The elaboration of fermented foods and beverages is not merely analogous to but constitutes the very same process through which thought is transmitted and relationships between worlds are established. Pajmuri thus expresses the movement of thought and human and non-human action across three realms: the upper world (the House of the Grandparents of the World), Kaailrá (the world of life on Earth), and the lower worlds (governed by water and by worms, the masters of pain and healing). Exploring Pajmuri and its underlying cosmogony opens pathways for analyzing the potential intersections between Indigenous thought and art and contemporary inquiries into how life can be conceived amid political and social crises.

### 3d: Attuning to Watery Worlds: Perception, Relationality and Care in More-Than-Human Ecologies

Open Panel, Friday 12<sup>th</sup> September, 14.00 – 15.30, HG D 5.1

Convenors: Anthea Oestreicher

*How can we rethink our relationships with watery environments and (microbial and invisible) more-than-human lives they sustain? This panel invites contributions engaging with artistic, scientific, and multi-/post-disciplinary practices to explore how oceanic and other aquatic ecologies can reframe dominant perceptions and generate new forms of responses. How can we navigate the interdependencies between species (including humans) and watery worlds, and how might such efforts illuminate tensions or uncover emergent possibilities for care? Building on feminist theories of care, relationality and response-ability (Haraway, 2016; Neimanis, 2017), the panel seeks to highlight practices that work on relationalities, multisensory engagements and sensory/embodied practices—such as storytelling, artistic research, performative inquiries, and technological mediations. These responses often act as "minor gestures" (Manning, 2016), reconfiguring our encounters with micro-ecological worlds.*

*Topics may include:*

- *How can experimental practices, including cyborgian adaptations of bodies, render invisible ecological processes perceptible, and what do such practices offer in rethinking the boundaries of scientific and aesthetic engagement?*
- *What role can embodied explorations—whether conducted in situ or in controlled environments such as laboratories or augmented by technological tools—play for these connections?*
- *How might feminist and queer frameworks help reimagine (non-hierarchical) relationalities, ethics, and political dimensions of care?*

*The panel aims to create space for dialogue across and beyond disciplines, encouraging participants to share work that engages with watery worlds as sites of critique, creativity, and togetherness. By weaving together diverse perspectives and approaches, the panel highlights the role of minor, ephemeral, or overlooked gestures that (re)shape the planetary.*

#### Contributions:

**Blurring Boundaries: Holding Nature Together Through Technical Practices** – Ann Lévesque, Jean-François Bissonnette, Jérôme Dupras (University of Geneva, Université Laval, Université du Québec en Outaouais)

This presentation examines the socio-technical work of holding together an ecologically aware floodplain, Lac Saint-Pierre in Québec, Canada, where nature preservation intersects with high-intensity agricultural practices. Previously abandoned, yellow perch stocks have declined drastically over the past decades, which triggered a fishing moratorium, policy-driven habitat restoration efforts, and ecosystem monitoring initiatives.

These measures attempt to improve water quality and maintain biodiversity but also engender conflicts with land-use priorities at the local scale and agriculture systems. Rather than treating this crisis as a moment of ecological breakdown or revitalization, we analyze it as a project of maintenance: a never-ending endeavor to stabilize certain ecological relationships through technical, institutional, and political mechanisms.

The case illustrated how boundaries between what is "natural" and what is created "technical" are dynamically negotiated in these practices. Restoring the floodplain involves more than an environmental ideal, it involves negotiating competing visions of land, brokering competing types of expertise, and managing asymmetries of authority and responsibility. The yellow perch, indicator species and focus of conservation effort, is a site of negotiation, influencing how environmental value come to be defined and performed.

**Sensory and More-than-Human Engagements with Algal Blooms:  
Exploring changes in human-environment relations – Jose A. Cañada**  
(University of Helsinki)

The way humans relate to aquatic bodies and their nonhuman inhabitants is mediated by a long history of coexistence. For many communities this has meant the creation of strong aquatic attachments that manifest socially, politically, culturally, scientifically, and economically. The shape of such attachments is currently shifting in reaction to phenomena such as global warming, rising water levels, and changes in water composition. In my work, I follow the effect of algal blooms in Finnish water bodies. Blooms, formed by different species of microalgae, are naturally occurring phenomena in oceans, seas, and lakes, but phenomena such as eutrophication – i.e. increased presence of nutrients linked to pollution - and rising water temperatures are affecting their usual size and seasonal patterns. The otherwise positive ecological role of microalgae in the trophic web and in processes of carbon capture contrasts with their capability to form massive blooms that can be toxic to human and nonhuman animals. Massive blooms have become a typical occurrence in Finnish waters, especially during the spring and summer, when higher temperatures and nutrient load create optimal conditions for microalgal blooming, sometimes forming visible biofilms. Their impact simultaneously attracts and pushes away humans from aquatic environments: while, on the one hand, blooms lead to scientific and management efforts to know better their role in ecosystems, health concerns keep people away from interacting with the lakes and coastal waters with which they have historically coexisted. This presentation explores such changes by looking at emerging knowledge practices around algal blooms – knowledge broadly defined to include science and environmental management as well as cultural traditions around water bodies. The resulting analysis examines how boundaries between land, water, nature, and culture, are reified by the bidirectional move towards and away from water bodies, helping to understand changes in human-environment relations.

**Plankton Ecosystems and Situated Learning in Fluid Networks – Rikka Tauriainen (Bern University/Bern Academy of the Arts)**

The doctoral thesis, titled «Plankton Ecosystems and Situated Learning in Fluid Networks» is part of the SNSF-research project «EcoArtLab: Relational encounters between the arts and climate research» by the Institute for Practices and Theories in the Arts at the Bern Academy of the Arts.

Focusing on the intersection of oceanic literacy, artistic practices, and mediation, the thesis investigates how collaborations between art and science can contribute to the care of bodies of water. It analyses EcoArtLab's intervention «Plankton Ecosystems – Shaping the Narrative of Climate Change» through artistic research. In collaboration with experts in environmental science, marine biology, and visual art, it explores plankton's role in marine ecosystems and its impact on climate. The project integrates art and community science to deepen understanding of aquatic ecosystems through participatory formats such as study groups, talks, and workshops.

The research methodology is grounded in artistic research and uses situated approaches to studying aquatic ecosystems. Through film, storytelling, and sensory experiences of water, it explores how these practices can connect imagination, emotion, and physical reality. It also investigates community science practices, examining how they can democratize scientific knowledge and promote relational ecological practices.

This presentation will focus on the key principles and the practical part of the doctoral research, as well as addressing the question of why to work with plankton. The presentation will contextualise the seemingly mundane role of plankton and highlight its exceptional forms of life.

## **1c: Erasure of Shared Sacred Landscapes and Remembrance of Disrupted Futures**

**Experimental Format, Friday 12<sup>th</sup> September, 16.00 – 17.30, HG D 5.1**

**Convenors:** Safet HadžiMuhammedović, Jasmin Tabakovic

*The systematic denial of histories of togetherness across religious difference, alongside the deliberate destruction of religiously plural communities and their heritages, has long been a tool in genocidal programs. Palestine and Bosnia serve as emblematic examples of such ongoing efforts to erase long-duration proximities and exchanges. These actions are framed to argue that community across 'ethno'-religious boundaries was never possible, or that shared sites, practices, and histories bely other motives like antagonistic competition for control. More than a year of Israel's everyday genocidal violence has thrust into public discourse—spanning media, activism, and intimate conversations—both the denialism of togetherness and the unambiguous search for meaning in the histories of disrupted futures of plurality. This panel invites ethnographic, historical, and artistic engagements to explore not only these destructive ideologies but also the processes of rediscovery, recovery, and reorientation in the aftermath of genocidal disorientation.*

*Contributions might address the invention of the absence of shared lives and traditions, the surfacing of disrupted futures along and against the grain of archives (broadly understood), or speculative reimaginings of past-futures amidst ruination and historical absence. We seek to explore shared sacred infrastructures—such as sacred sites, rituals, saints, landscapes and supernatural beings, calendars and other temporalities, neighbourhoods, or various modalities of care and exchange—as well as their afterlives. We do so not only to expose the historical contingencies of togetherness, but also to upset the resurgent nationalist campaigns and (re)imagine alternatives.*

## **Contributions:**

### **Tarrying with the Negative: Epistemico-Ethical Refusal and Landscapes of Negationism** – Jasmin Tabaković (University of Cambridge)

This experimental-poetic-analytical piece begins from the lived premise that refusal to forgive is itself an essential epistemico-ethical act of response-ability that we, as positioned researchers, must embrace in the face of the perpetuation and negation of genocidal violences past and present. Here I focus primarily on Višegrad in eastern Bosnia-Herzegovina and also relate it to Israel's ongoing genocidal attempts to decimate Palestine and Palestinians. Refusal here is a "negation of the negator's negationism," so to say. It is the affirmation of unresolved—and perhaps unresolvable—grievance, a steadfast refusal to reduce atrocity to a privatized realm of "trauma" to be "overcome" therapeutically or to consign it to a transitological teleology of "reconciliation" or "transformative justice," forever in the making. Such perspectives on the work of healing risk becoming another form of erasure. Indeed, the very possibility of living together—across past, present, and future—has been seemingly violently foreclosed by entrenched, antagonized essentializations: the genocidal "Greater Serbia" and "Israeli Zionist" projects, in this instance, and the complicit and enabling international community, which ontologize(d) difference into irreducible schism, forging landscapes of catastrophic erasure, (re-)mythologization, and a "culture of denial."

Negation takes on many shapes in Višegrad; to name just a few that I will foreground here: Vilina Vlas's spa-turned-rape-camp, now reopened as if nothing ever happened; the ritual expunging of "genocide" from a small commemorative gravestone in a Muslim burial ground; and the Andrićgrad genocidal fantasia—a retro-Renaissance edifice built atop genocide's ruins, functioning as a monument both to essentialized cultural "revival" and to the violence it attempts to conceal. Against this backdrop, anger, grief, and resentment emerge as "outlaw emotions," irrepressible acts of memory-keeping that confront nationalist myths and global scripts demanding premature closure. By invoking the vile (fairies) that haunt terrain and imagination as poetic witnesses to atrocity and denial—and by amplifying the voices of the murdered and of surviving witnesses—I insist that these crimes be nailed to the present, and that seeking justice foregrounds the restless moral fidelity to refusal. In this shared, if tentative, tarrying with unresolved grief lies a fissure toward co-existence—not as an obscuring reconciliation,

but as an ongoing collective commitment to honor absence, bear witness, and allow the unhealed past–present to shape any genuine pursuit of potential transformation.

**What This Rubble Holds: Community and Genocide – Safet HadžiMuhamedović (University of Stirling)**

In this video performance-lecture, I walk through a gutted neighbourhood in a south Bosnian city. I think with the absent insides of houses – the people, the things, the scents, the relations – inhabiting them with the voices of those who have returned to live amongst the rubble and those who return as my haunting projections. I linger with the piles of rubbish, the stray cats, the ivies and the weeds. Shifting between the ruination and the memories of lives before it took hold, this intervention problematises the narratives of inevitability to nationalist violence and separation along 'ethno'-religious lines. I make use of my long-term ethnographic and archival material to show that this neighbourhood was held together by long-duration technologies of proximity inclusive of religious difference. I extend the conversation on ruins to the invisible, sanitised, built-over, restored and reconstructed places in the city, which had been emptied of their past proximities and embedded into the post-war continuation of the genocidal project. Ruination here becomes an embodied critique of the projects producing it – encountered daily, whether as a reminder of a community erased, or as stench, obstacle, and dangerous ground – disarticulating the ideological demand to forget and move on, fabricate another world. And, thinking through the rubble, I encounter a call for an enduring global solidarity against genocide.

## **Holding Citizens and States Together**

### **3b: STS and international security: Towards convergence?**

**Open Panel, Wednesday 10<sup>th</sup> September, 14.00 – 15.30, KOL-G-220 & Thursday 11<sup>th</sup> September, 9.30 – 11.00, HG D 3.1**

**Convenors:** Matthias Leese, Jens Hälterlein

*International Relations (IR) scholars have, in order to grapple with the pre-eminent role of science and technology in international security affairs such as warfare, counterterrorism, or non-proliferation, increasingly turned to STS. Vice versa, while there are notable exceptions of STS scholars engaging the military or questions of secrecy (see Vogel et al. 2017), the discipline has, given the breadth of its work, been relatively reluctant to study matters of international security. Contemporary developments such as the use of AI-enabled weaponry, the tightening of bonds between the civil and the military sector, and the (re)militarization of politics and society would, however, so we contend, warrant much broader and systematic attention of and engagement by STS.*

*Such engagement can be beneficial to deal with new conflicts, growing tensions, and uncertain futures in multiple ways. First, it can expand our understandings of complex, interconnected systems at scale (such as national AI innovation strategies, nuclear arsenals, cyber security infrastructures, and disaster preparedness efforts) and their entanglements with (science) diplomacy, policy-making, and geopolitical strategy. Second, it presents a challenging environment of ethical questions that arise from aspects such as dual-use, surveillance, and state secrecy that tend to interfere with norms of scientific autonomy and public accountability. And third, by engaging in international security matters, STS scholars can inform policy and offer critical perspectives that challenge overly technocratic or militarized approaches to security.*

## **Contributions:**

### **Session 1 Wednesday 10<sup>th</sup> September, 14.00 – 15.30**

#### **The Normalization of Military AI in and through the War in Ukraine: Converging Interests and the Eclipse of Resistance – Simon Hogue (Université du Québec à Montréal)**

Military artificial intelligence is rapidly normalizing in the West. In February 2025, in a shocking rebuttal of its historic position, Google discreetly abandoned its internal policy forbidding using its AI technologies for security and military purposes. In so doing, Google joined the other members of the American Big Tech – Amazon, Microsoft, OpenAI – seeking to penetrate the valuable MilTech market dominated by Palantir and other defense unicorns such as Anduril and ShieldAI. This episode, combined with the glamourizing of Ukrainian AI successes in the war – the Delta System praised by NATO, the drone swarms and drone automated targeting – show a transformation in the acceptability of military AI. The formerly hot AI potato is no more troubling when it comes to Ukraine and its war against non-Western imperialism. For Palantir's CEO Alex Karp, military AI is nothing less than an instrument for the necessary (and benevolent?) American world domination.

Turning to STS, this proposal problematizes the normalization of military AI in Western armies from the USA to Ukraine. It rejects the deterministic understanding of military AI that explains its normalization as a result of increased effectiveness and sophistication. Rather, it argues that it is the result of converging interests and world views by political, international, private and military actors in the unique security, institutional and economic context of the war in Ukraine. The proposal seeks to deepen the dialogue between STS and critical security studies, foregrounding the interconnection between the conduct and imagination of present-future warfare, innovation strategies, market incentives and national identities. The proposal also seeks to challenge the closure effect of normalization that silences resistance, bringing light to the contingency and power dynamics of military AI.

**Algorithmic Total War: Militarism, Mobilization, and the New Frontiers of Conflict** – Benjamin Johnson (University of Groningen)

This paper examines the scope and character of society's entanglement with algorithmic war through the lens of total mobilization. It asks: How has the relationship between war, militarism, and society evolved within the algorithmic age? Rather than framing war as a future rupture – 'the next' world war – I argue that we are increasingly living within the conditions of algorithmic total war. This concept captures how state and society are being co-constitutively militarized through algorithmic logics. The result is a profound reconfiguration of the war/society nexus: war is no longer spatially or temporally bounded, nor institutionally confined to the military. Instead, the fabric of everyday life is increasingly conscripted into the infrastructures, logics, and subjectivities of war-making. This paper thus reconceptualizes algorithmic war not as a discrete form of armed conflict but as a totalizing social relation, reorganizing the boundaries of peace and war, state and society.

**Conflict in Controlled Environments: Wargaming Exercises as Security Laboratories** – Nicolò Miotto & Nina Klimburg-Witjes (University of Vienna)

Wargaming refers to structured simulation exercises used by military organisations, governments, and think tanks to model and rehearse potential future conflicts, crises, or strategic decisions. Combining Critical Security Studies' (CSS) sensitivity to power and discourse with STS's attention to laboratory dynamics (broadly understood), this paper explores military wargames as "security laboratories" where strategic futures are staged, tested, and made actionable through simulation. While CSS has robustly critiqued the discursive framing of threats, it has only begun to attend to the material epistemic infrastructures through which security claims gain traction. Drawing on classic STS concepts—such as epistemic cultures, experimental systems, and the performativity of simulations—we explore how wargaming as simulation exercises generate not only strategic knowledge, but also authority and plausibility, shaping what becomes thinkable and actionable in security policy long before crises erupt. Through ethnographic fieldwork at two wargaming exercises for cyber and space security, we will trace how epistemic-material infrastructures and scenario design co-produce knowledge and legitimise particular threat narratives. Our aim is twofold: To invite STS scholars to engage more deeply with pressing ethical and geopolitical questions related to military knowledge practices and to offer a novel conceptual lens for mapping the layered interplay of technology, knowledge and policy in international security through shared perspectives between STS and CSS.

**Under-the-Radar Developments in Intelligence Units: Informal Workarounds, AI Toolmaking, and the Legal-Technological Order** – Sophie Maeva Bettex (ETH Zurich)

This paper focuses on the making and remaking of internal search engines and data visualisation tools in intelligence units. Drawing from multi-sited ethnographic research conducted across six police organisations, this paper provides an in-depth account of the practices and perspectives of intelligence actors. Positioned at the intersection of STS, Critical Data Studies, and IR, it interrogates how these tools are not merely created but curated, tinkered with, and often developed under-the-radar by programmers and intelligence officers navigating the frictions between operational needs, data quality, institutional cultures, and legal ambiguity.

European legal frameworks, including the GDPR, the AI Act, and constitutional protections regarding privacy, formally restrict the design and use of specific policing tools and data. Yet, in practice, officers frequently engage in informal workarounds, such as reinterpreting legal thresholds, bypassing constraints through manual data processes, and developing internal, under-the-radar tools. These practices expose the fragility of legal oversight in light of security imperatives, techno-solutionist narratives, and the profound entanglement of law, powerful and hidden police units and everyday discretion in shaping algorithmic governance.

This paper advances STS-informed IR scholarship that foregrounds how international security concerns are materialised and domesticated in local and territorial infrastructures and tools. It further challenges technocratic imaginaries of AI policing by demonstrating how legal compliance, ethical standards, and institutional accountability are not preconditions but contested outcomes of situated sociotechnical negotiations. In doing so, it contributes to the growing body of work that calls for ethnographic engagement with the mundane yet consequential politics of European AI governance.

## **Session 2 Thursday 11<sup>th</sup> September, 9.30 – 11.00**

### **States of Exposure: The Transformation of the Vulnerability Research Ecosystem into a Strategic Resource – Myriam Dunn Cavelty (ETH Zurich)**

While not the sole enablers of cyber conflict, vulnerabilities are necessary conditions for politically significant operations such as espionage, sabotage, and system disruption. Control over their discovery, disclosure, and exploitation has become a key site of geopolitical struggle. This paper advances the convergence between STS and international security by tracing the transformation of software vulnerability research from a decentralized, hacker-driven practice in the 1990s into a strategic resource central to great power competition.

The paper asks how we can understand this transformation, particularly state interventions that disrupt foundational norms of openness, decentralization, and autonomy in the vulnerability research ecosystem, often with ambiguous consequences for (cyber-)security. To address this, we develop a conceptual framework that merges Actor-Network Theory (ANT) with a business ecosystem perspective. This synthesis retains ANT's focus on relationality and distributed agency while enhancing our ability to analyze temporal change (e.g. growth, adaptation, fragmentation), strategic behavior

(particularly by embedded state actors), and system-level consequences of localized actions.

Empirically, the paper examines China's 2021 Provisions on the Management of Network Product Security Vulnerabilities, which mandate rapid domestic disclosure of vulnerabilities to the state authorities. However, rather than interpreting this as a rupture, the paper situates this intervention within a broader and more long-term trend of state efforts to reconfigure knowledge ecosystems for strategic advantage.

The paper argues that today's security politics are co-produced through the fusion of market logics with national security imperatives, and through the hybrid governance of knowledge flows: who knows what, when, and under what conditions. By conceptualizing vulnerability research as a co-evolving ecosystem of interdependent actors, knowledge flows, and incentives, the paper offers insights into how cyber conflict increasingly centers on the contestation of epistemic authority and infrastructural control—revealing the emergence of new forms (competition) of power in digital security governance.

### **Redefining the Sinews of War: Technoscience and Security in Agriculture and Beyond - Yuval Molina Obedman (University of Amsterdam)**

In *Science in Action* (1987), Bruno Latour did not simply characterize technoscience as a “military affair,” but disclosed its constitutive militarization—its entanglement with regimes of command, control, and the projection of force at a distance. This paper radicalizes that claim by arguing that technoscience, as the dominant epistemo-praxeological regime of scientific and technological production today, is structurally inscribed within military rationality. Its historical emergence is inseparable from the logistical and epistemic reconfiguration of knowledge during World War II, when research and development were subordinated to strategic imperatives. Yet this condition also expresses a deeper genealogy: the formation of technoscientific assemblages through warfare as a privileged vector for establishing heterogeneous networks and operationalizing action at a distance. While thinkers such as Latour, Pickering (1995), and Echeverría (2003) have gestured toward this nexus, their analyses have been marginalized. Against such erasure, this paper argues that war is not merely enabled by technoscience, but functions as a modality of technoscientific reason itself. To substantiate this claim, I draw on Gilbert Simondon's critique of progress, his analysis of alienation, and his reflections on automation in *On The Mode of Existence of Technical Objects* (1958). This framework is applied to the case of agricultural innovation in the Netherlands, where the imperative of ‘food security’ is deeply intertwined with national security concerns. In this context, state-driven agricultural research operates not merely as a reflection of military concerns, but as a technoscientific practice shaped by military logics of control, optimization, and efficiency, reinforcing a militarized approach to managing risks and resources.

**Consensus, Controversy, and Circulation: The Case of Smart CCTV in Northern Ireland and the Republic of Ireland – Fabian Hofmann (ETH Zurich)**

What happens to prototypes of urban security technologies when they become contested? In conversation with Science and Technology Studies (STS), International Relations scholars working on digital surveillance technologies have become increasingly interested in technological failure and its politics. Focusing specifically on city-centered security politics, concepts borrowed from STS have been mobilized to trouble the success/failure binary and foreground the everyday and exceptional controversies that arise during urban security technologies' design and use. This paper speaks to this literature but adopts a slightly different perspective: rather than asking how urban surveillance technologies become controversial in the first place, it explores what happens to technology prototypes after their use has become too contentious. To do so, I empirically focus on a smart CCTV prototype initially trialled as part of a pilot scheme in Belfast, Northern Ireland, and subsequently transferred to Dublin, Republic of Ireland. The controversies over the CCTV system's trial in public parks in Belfast and its eventual move to Dublin throw into relief the dynamics of consensus and circulation within which surveillance technology development across the island of Ireland is embedded. Based on interviews, institutional analysis, and media reports, I retrace how the consensus on public surveillance in Northern Ireland is shaped by the legacy of militarized control during "the Troubles," creating a contrasting stance to the adoption of smart city technologies in the Republic of Ireland. At the same time, I elucidate how cross-border smart city networks give rise to an island-wide innovation ecosystem within which urban prototypes circulate between Belfast and Dublin. Overall, the article advances process-oriented thinking on urban security technology prototyping by strengthening the analytical ties between dynamics of consensus, controversy, and circulation.

**Technology Diffusion in IAEA Safeguards: Navigating Socio-Technical Challenges and International Collaboration - Julian Schäfer (RWTH Aachen)**

Safeguards applied by the International Atomic Energy Agency (IAEA) are an important element of the global nuclear non-proliferation regime. They serve as a verification system designed to ensure that nuclear materials and activities remain exclusively peaceful, preventing their diversion for weapons development. To implement safeguards effectively and efficiently, new safeguards technologies constantly need to be developed, adjusted, and further improved. However, implementation of safeguards is not a linear and exclusively technical process; it requires extensive cooperation and communication among various stakeholders. Interpreting safeguards as a complex knowledge infrastructure, this paper explores how the IAEA maintains and develops this infrastructure to remain effective and efficient in a constantly evolving socio-technical landscape. With a focus on non-destructive assay of spent fuel verification, this paper is based on the results of an ongoing exploratory interview study with IAEA staff, researchers,

Member State Support Coordinators, and non-traditional partners of the IAEA. It presents their perception of the technology diffusion process, identifies key factors in the development process, and perceived barriers. By analysing the dynamics of technology development and implementation in IAEA safeguards, this study aims to provide new insights into the technology diffusion within the IAEA's safeguards regime. It thus contributes to a deeper understanding of the socio-technical dynamics that influence the IAEA's ability to uphold global non-proliferation commitments. This paper is part of a PhD thesis within the interdisciplinary research project VeSpoTec, funded by the German Federal Ministry of Education and Research.

### **An AI-driven Revolution in Military Affairs? – Engaging with Algorithmic Warfare beyond Technological Determinism and Meaningful Human Control – Jens Hälterlein (ETH Zurich)**

In the military context, AI is currently being implemented at various levels – from strategic foresight and wargaming to autonomous weapons and targeting systems. This development can be summarised under the term “algorithmic warfare” (AW). Due to an alleged existential threat posed by near-peer adversaries who would not hesitate to use AI without being guided by a “moral compass”, as many military analysts and planners stress, the development of military AI is ultimately unavoidable. At the same time, however, AW is becoming the subject of a moral controversy in which technoscientific promises of a faster and more precise (and thus less lethal) warfare on the one hand are pitted against fears of the dehumanization of warfare and a loss of meaningful human control over crucial acts of war on the other. However, as I will show, both positions reproduce a technological determinism on a different level. While proponents derive positive effects of AW directly from the technological properties of AI-enabled systems, their criticism is based on the tacit assumption that the autonomy of human operators and commanders is now overridden by the autonomy of machines that would operate independently of human reasoning. Following this analysis, I will address the question of what transformations can be observed in the course of AW and how these can be conceptualized through an STS-informed understanding of human-machine interactions beyond technological determinism and human autonomy.

## **3c: Liberal Objects - What Remains of Them & How They Matter (or Not) Now**

**Open Panel, Thursday 11<sup>th</sup> September, 11.30 – 13.00, HG D 3.1**

**Convenors:** James Hay, Yewon Hong

*The panel explores the conference theme, "Holding Things Together," by examining the changing materiality of liberal governance and liberal citizenship as "liberal objects"—an expression that refers both to the material things through which liberalism has been and is performed in daily life and to these objects' relation to the changing objectives and rationalities of liberalism. The panel's organizers draw the*

*term, liberal objects, partly from the proposals advanced explicitly and implicitly by historians of 19th century liberalism such as Chris Otter (2007) and Patrick Joyce (2003), who rethink the early history of liberalism through the material performativity and operationalization of its post-Enlightenment governmental rationalities and liberties. The panel's title also is informed by Bruno Latour's rumination about a "dingpolitik" (2005) and by Thomas Lemke's proposal for bridging STS and governmentality studies to examine "the government of things" (2021). One of the panel's organizers, James Hay, has analyzed recent regimes of everyday, "smart" appliances (2018) and the fraught everydayness of the face mask during the COVID pandemic (2021, 2023) as liberal objects.*

*The organizers of the panel invite paper submissions that examine the residual, emerging, and sometimes conflicting objects and materialities of liberal governance, individual liberties, and liberal citizenship. Paper submissions are invited to address the historical contradictions of current liberal objects and the current precarity of traditional objects and materialities of liberalism. The panel is particularly interested in assembling papers that consider the panel's title in relation to various geographic instantiations of liberalism in the current context.*

### **Contributions:**

#### **Satellite Dishes in Iran: Residual and Emergent Liberal Objects – Shaghayegh Bandpey**

This paper critically examines the satellite dish as a liberal object in the Iranian context, focusing on its historical and material entanglement with global capitalism and mediated imaginaries of freedom. Introduced widely in the 1990s, satellite dishes circulated as material carriers of liberal-cultural content, promising access, choice, and global connection. Yet in the Iranian context, these promises were not institutionally guaranteed, and their material presence instead exposes the fragmented, often contradictory delivery of liberal values to the periphery of the capitalist world system.

Using a theoretical framework grounded in Marxian real abstraction and economic ontology, this paper interrogates how liberal objects like the satellite dish function not as neutral technologies, but as ideological artifacts—commodified representations of liberty stripped from the political infrastructures that sustain them elsewhere. Their informal and often criminalized status in Iran highlights the junk value of liberalism under conditions of repression and structural inequality.

Drawing on Raymond Williams' concepts of residual and emergent culture and Bruno Latour's dingpolitik, the satellite dish is treated not only as a media tool but as a site of contested material politics—where private aspirations, state power, and global media capital collide. The dish is both a residue of past liberal utopias and an emergent object of negotiation, reappropriated by everyday users who engage it under surveillance, threat, and censorship.

Rather than romanticizing the object as inherently liberatory, the paper emphasizes how such technologies reflect broader contradictions of liberal modernity and capitalist globalization—where inclusion is partial, precarious,

and unevenly distributed. In this light, the satellite dish becomes a symptom of global inequality, not simply a window to freedom.

## **5b: Critiquing Radicalization: a sociotechnical perspective on political events**

**Workshop, Thursday 11th September, 14.30 – 16.00, HG F 26.5**

**Convenors:** Heidi Campana Piva, Violette Mens, Camilla Winde Gissel


*Radicalization has become a common framework for interpreting political events, shaping public discourse and policy responses. However, does the concept contribute to the critique and overall appropriate understanding of these events, or does it reinforce exclusionary structures? In this interactive workshop, we will focus on a recent political event, seeking to evaluate how researchers, civil society, and policymakers engage with the concept of radicalization as a sociotechnical construct shaped by digital infrastructures, political institutions, and academic debates. This discussion will be anchored in how sociotechnical systems sustain, transform, or contest dominant political framings. To establish a shared foundation, participants (max 20) will receive three academic papers in advance.*

*The practical one-hour workshop will be divided into three parts: 1) Introduction (5min) presenting a few guiding questions; 2) Groups of 3-4 people will have 10-15 mins to analyse a newspaper article on the chosen event and prepare some arguments; 3) Open discussion (30-40 mins) to reflect on our understanding of the event, diving into the pros and cons of reading political phenomena through the lens of radicalization. The final outcomes should be an open discussion on the status of radicalisation critique, informed by key scholars such as Michel Foucault (postmodern critical social theory), Donatella della Porta (political science and radicalisation), and Richard Jackson (critical terrorism studies), developing a critical stance on the political instrumentalization of certain events, and seeking ways in which S&T studies can provide reconciliation in contrast to what are currently understood as extreme irreconcilable positions.*

## STS-CH General Assembly

The General Assembly of STS-CH will take place during lunch on Thursday, September 11, in HG E 5 (ETH Zurich).

 **13:00 – 14:30**

 **HG E 5, ETH Zurich**

Address: Rämistrasse 101, Zurich

Everyone is warmly invited to join — come share your thoughts, hear updates, and connect with the STS-CH community.  
Feel free to bring your lunch along!

## Conference Party

### the music/manifesto multiple & Digital Interfacing


 **Zurich University of the Arts (ZHdK)**

Toni-Areal, 5th floor — Rampe & Kunstraum (Room 5.K12)

**Förrlibuckstrasse 109**, Zurich

Tram 17, stop **Fischerweg**

[How to get to ZHdK](#)

 **Thursday, September 11**

 **18:30 onwards**

Apéro on the Rampe, followed by party in the Kunstraum

***the music/manifesto multiple: dj pierre pi & vj pals, feat. ako amo (tbc)***

Join us for the party as a “manifesto production machine” which, then, will be taken up as the next-in-a-series manifestation/input/output of/into/out of the [Digital Interfacing](#) project

“Ecological thinking focuses on multiplicity and uses it ‘as the point of departure for all analysis’ (...) instead of adding perspectives to a central model” (Cozza 2021:93).

In science and technology studies (STS), ecological thinking is characterized by a subversive set of interrelated priorities:

- >”*continuity versus discontinuity;*
- >*pluralism versus elitism;*
- >*work practice versus reified theory;*
- >*relativity versus absolutism*” (Cozza, *ibid.*).

This, at least, remains case in the vein of Susan Leigh Star's work, whom Michela Cozza is quoting, and feminist epistemology (e.g., Rouse 1999). In turn, the music/manifesto multiple stands for a DJ/VJ set pursuing these priorities, interrelations, subversions, as one "prototypical expression of a minimalist manifesto in and for digital interfacing."

What does that mean? Three things at this point: first, an acknowledgement of locally-concrete-multiplicity vs one-digital-model; second, an invitation to explicate the heuristic character of that multiplicity; three, through a perhaps an unusual medium, a "music/manifesto multiple" (but see, e.g., Audry 2021; Stalder 2017), inviting creative engagement with media, digital or other (see also Mol's "body multiple", 1999).

The outlined version of the music/manifesto multiple is to expand on prior versions of two "minimalist manifestos" for digital interfacing and inspire the next versions to be developed (by August 2026). The two prior versions were a "dice" (six themes, relating to digital interfacing at school, or alternative themes) and a [website](#) (engaging with digital interfacing, more in form of FAQ website). For the project website, see [Digital Interfacing](#).

## Venues and Rooms

The conference events will be spread across 3 Zürich universities: ETH, UZH, and ZhDK, with a keynote and conference party at a nearby location. The registration desk opens in the respective event venue for each day. We look forward to welcoming you in the different spaces we share.

### **Venues Overview**

#### **Wednesday Sept. 10 – University of Zürich**

KOL-Building Rämistrasse 71, 8006 Zürich

#### **Thursday Sept. 11**

- Panels at ETH (9-16h): HG Building, Rämistrasse 101
- Keynote at Museum für Gestaltung
- Apéro and party at ZhDK

#### **Friday Sept. 12 – ETH**

HG Building, Rämistrasse 101, 8006 Zürich

#### **Building and Floor Name Formats at UZH and ETH**

- Floors in UZH and ETH buildings follow a letter instead of a number structure, in alphabetical order.

- Building names indicate the abbreviation for the building + floor + room number
  - ETH format: HG E 26.5 – HG building, E floor, room 26.5
  - UZH format: KOL-F-123 – KOL building, F floor, room 123.

## Wednesday – UZH KOL & KO2 Buildings

Panels are held in UZH KOL building on **floors F and G**, and in the F floor of the KO2 building (adjacent to KOL).

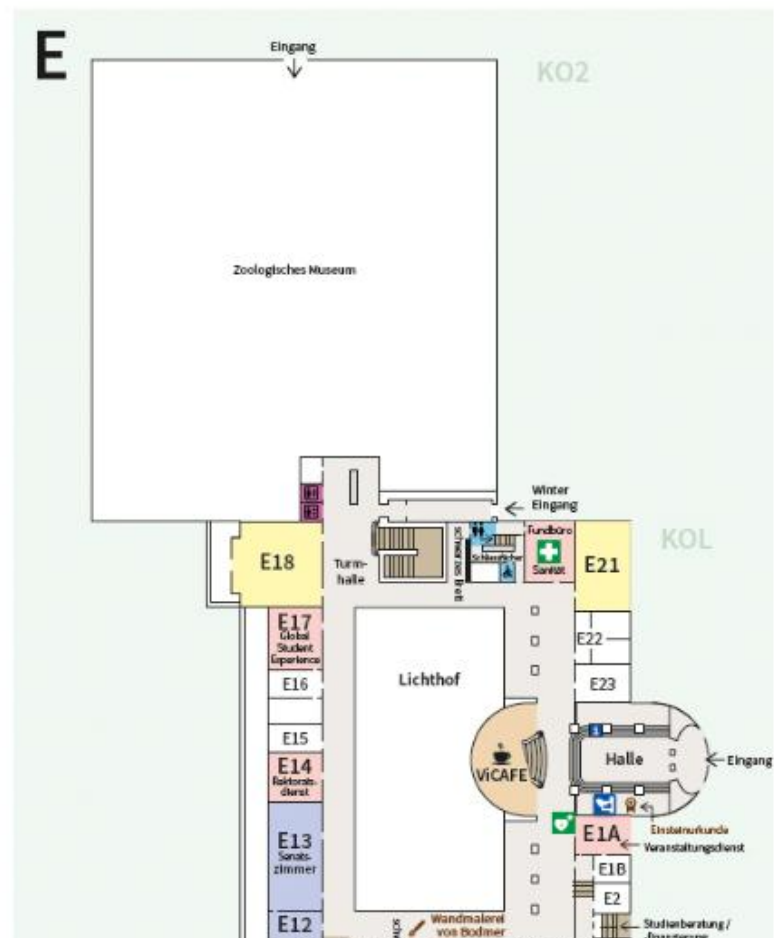
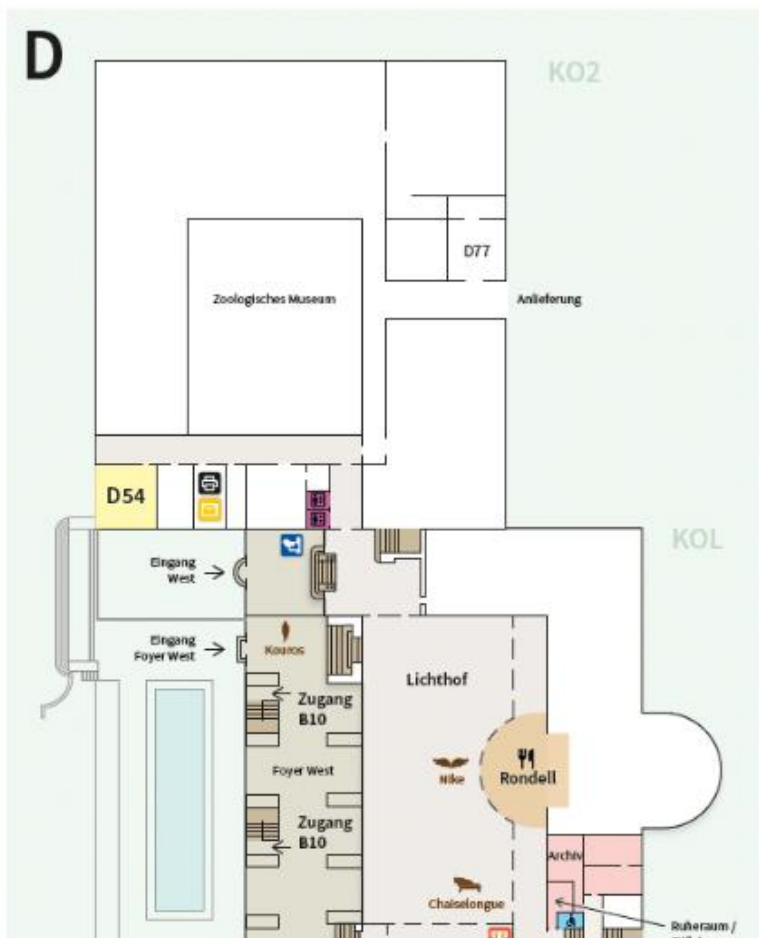
- KOL: Rämistrasse 71, 8006 Zürich
- KO2: Main entrance: Karl Schmid-Strasse 4, 8006 Zurich.



The **Wednesday afternoon Apéro** is held at the UZH **Obere Mensa**, Kunstlergasse 10, 8001 Zürich.



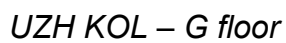
## UZH Floor Plans



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| <b>F-Stock</b>                |      | <b>M 1300</b>   |
| 202-4                         |      |   |
| Rämistrasse 71<br>8006 Zürich |      |  <b>Universität<br/>Zürich</b> |
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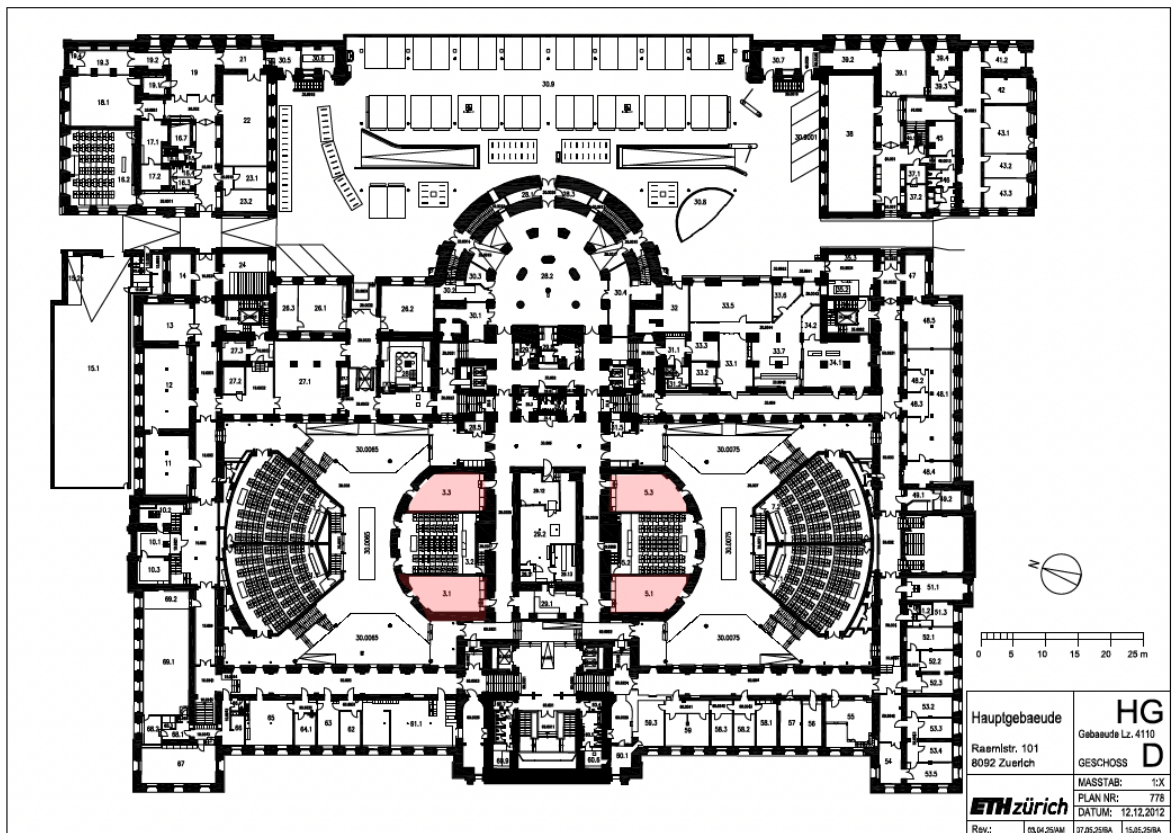
## Thursday and Friday panels – ETH HG Building

ETH panels are in the ETH HG Building – main ETH Zentrum building – on floors D, E, and F.

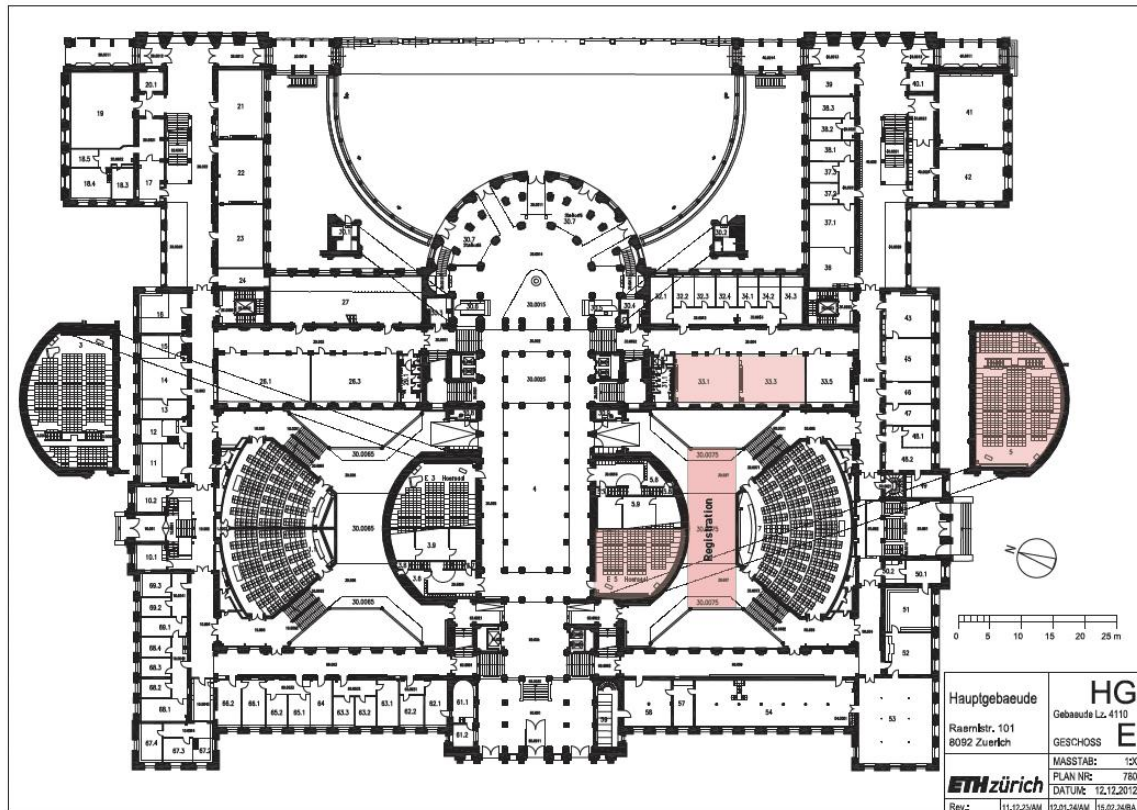
### HG Building

Rämistrasse 101, 8092

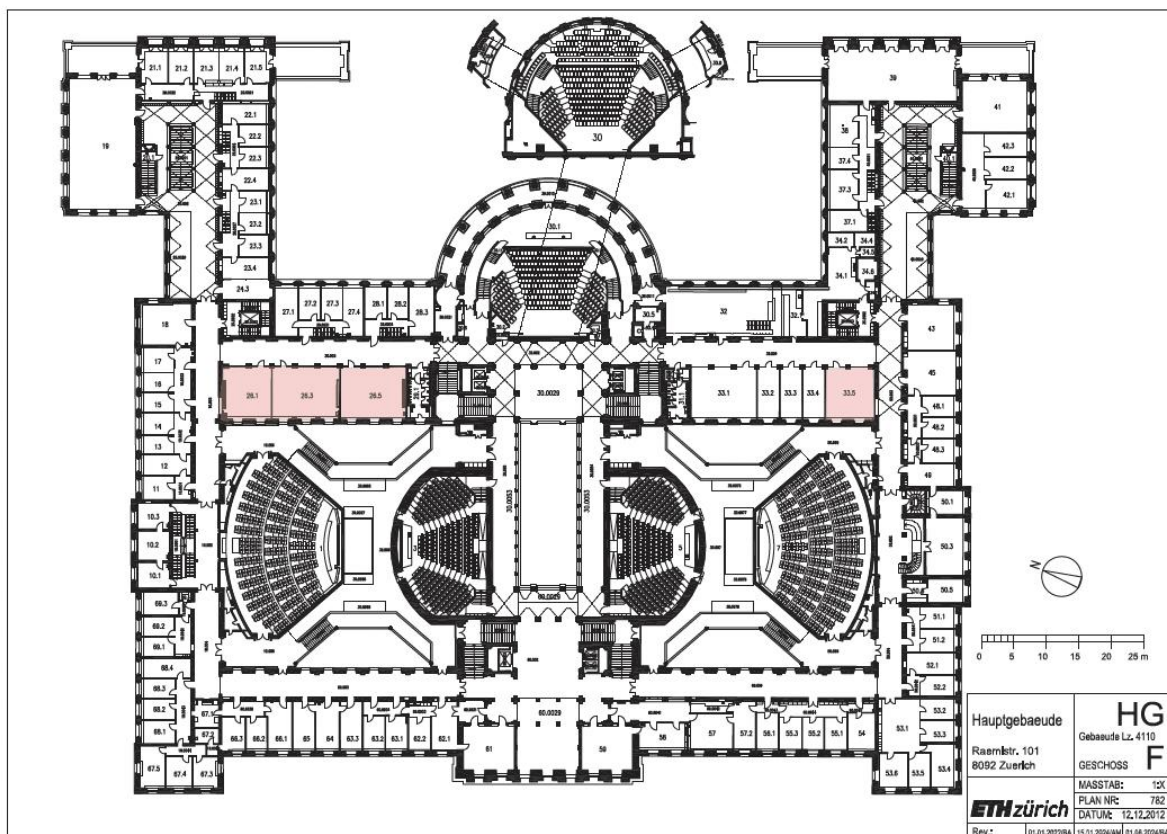




UZH HG – D floor



UZH HG – E floor



UZH HG – F floor

## Thursday Evening: Keynote & Conference Party – ZhDK

17-18:30 "What holds together? The role of the arts in the future of STS"  
Keynote by Hannah Star Rogers (University of Copenhagen)

Museum für Gestaltung: Vortragssaal, 1st floor, Ausstellungsstrasse 60 (*\*the museum has two locations, make sure to go to this address*)

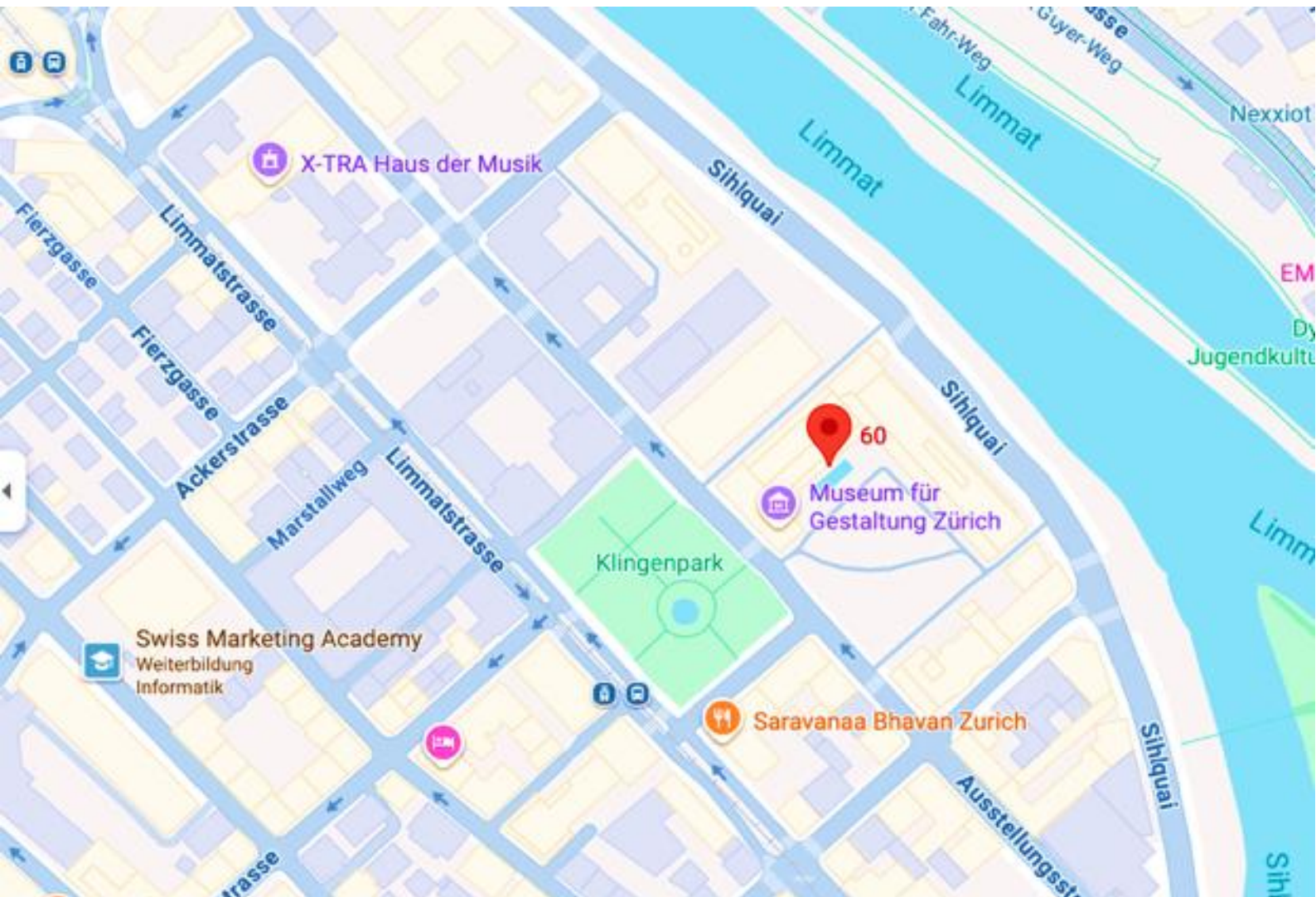
Tram 4, stop Museum für Gestaltung

<https://museum-gestaltung.ch/en/visit/ausstellungsstrasse>

### 🎉 Special Announcement for Conference Participants 🎉

We're excited to share that **all conference participants will receive FREE access to the Museum of Gestaltung** this Thursday – all day long!

Don't miss this fantastic opportunity to explore one of the most inspiring design museums. Whether you're into architecture, graphic design, or creative innovation, there's something there for everyone.

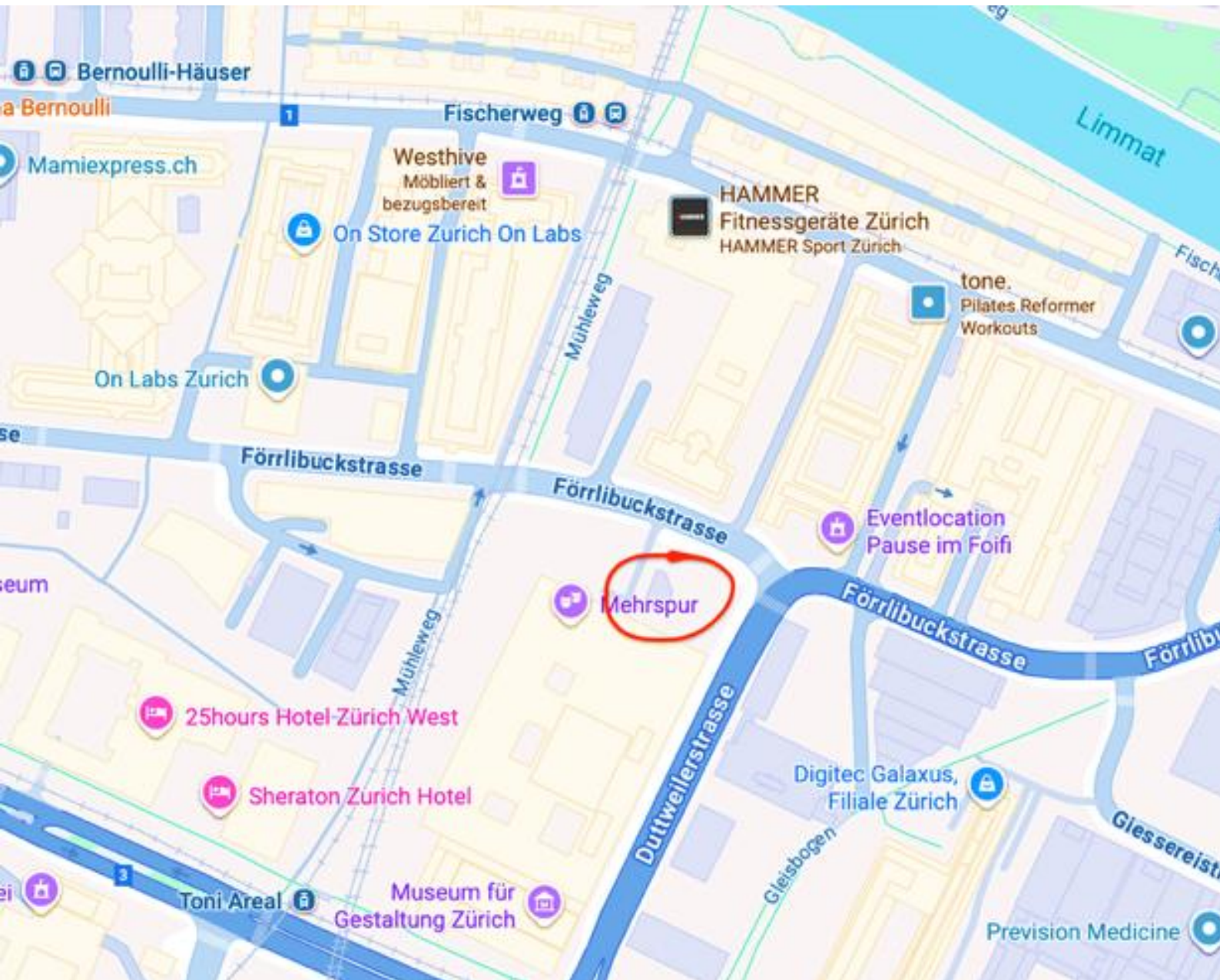


**18:30 "The music/manifesto multiple" Apéro on Rampe, followed by party in Kunstraum**

Zurich University of the Arts (ZHdK) , Toni-Areal, 5th floor, Rampe & Kunstraum, room 5.K12, Förrlibuckstrasse 109

Tram 17, stop Fischerweg

<https://www.zhdk.ch/en/tonicampus/how-to-get-to-zhdk>



## Room Equipment

To help you prepare for your presentations and sessions, please check the available technical equipment and setup for your assigned rooms:

- **ETH Zurich**  
Detailed information and pictures of the room setup can be found here:  
[ETH HG Room Details](#)
- **University of Zurich — KOL Building Rooms**  
Technical equipment and room layouts are available here:  
[UZH KOL Building Rooms](#)

Please review the resources in advance to ensure your session runs smoothly. For any technical support during the event, contact the onsite team (on registration desk).

## Logistics

### Wifi and Cellular

Eduroam WiFi network will be available throughout the conference locations.

Free WiFi connection is available throughout the conference in all locations. If you do *not have* eduroam access:

Use the guest networks of the universities.

- UZH - “uzh-guest”
- ETH - “eth-visitors”

After selecting the network, accept the Terms of Service and fill in the registration form with your mobile phone number. You will subsequently receive an access code by text message, which allows you to unlock Internet access.

As Switzerland is not part of the EU, please note that many European network providers do not include it in the European cellular internet plans. Make sure to check this with your phone provider to avoid fees.

While many public spaces in Zürich offer free WiFi, it is best not to rely on them for necessary communication.

### Public Transport in Zürich

Zürich is very well-connected by public transportation (both for intercity, international, and local travel). Most places in the city and around its outskirts are very easily accessible on foot, bike, or public transportation.

A day ticket for local transport (without the half-fare halbtax/demi-tariff card), is CHF 9.20. Please you need the “1-2 zones” ticket for travel within Zürich city. You can find more information and fares about transport [here](#).

Like the rest of Switzerland, Zürich can be quite expensive. Expect prices for a casual lunch meal to be CHF12-20, a dinner CHF25-50, and coffee around CHF6. Drink prices, alcoholic or otherwise, are in the CHF8-20 range.

### Swiss currency

Switzerland has its own currency, the Swiss Franc. While many vendors do offer payment in euros, many do not. International cards are usually accepted. While many newer establishments are cashless, Switzerland has a long-standing history of relying on cash, and cash payment is possible and “normal.”

Note that EU peer-to-peer money transfer services (e.g.Wero) do not work in Switzerland.

## Where to eat?

There will be *free tea, coffee and food like sweet treats, fruit, etc. during coffee breaks* provided by the conference organisers. *Lunch* will not be provided. We recommend having lunch in one of the nearby cafes or at UZH or ETH cafeterias (“mensas”). These university cafeterias offer a variety of options and expect large groups during out conference:

### [Dozentfoyer ETH](#)

This staff cafeteria at ETH offers a beautiful lunch or coffee spot on the top floor with breathtaking views of the city.

Rämistrasse 101, 8092

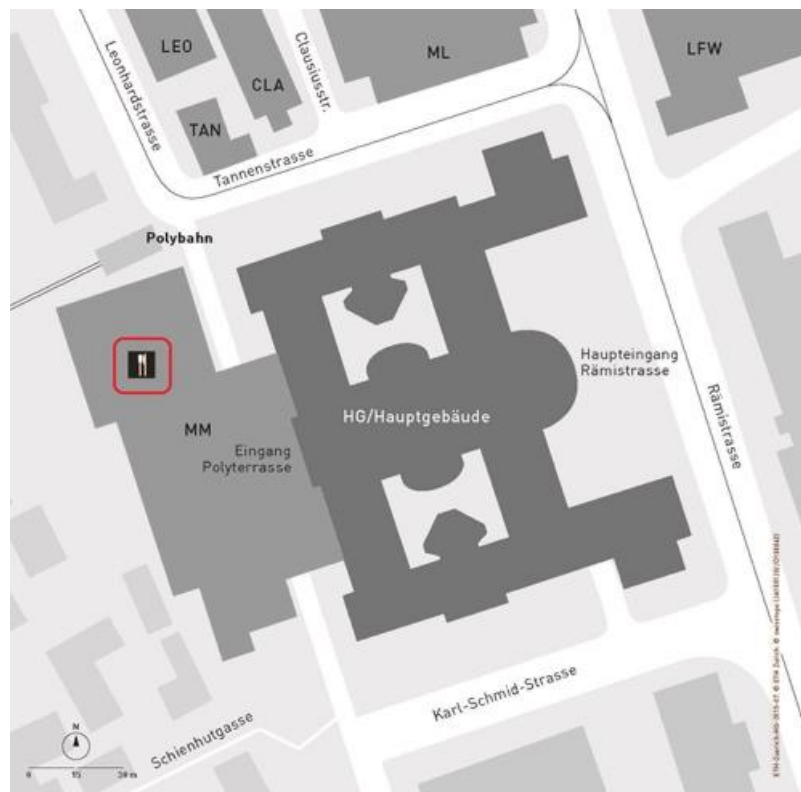
**It is located on the HG H Floor of the main HG building. Take the elevator on the right side of the main entrance (only) to the top floor.**

### [Polyterasse mensa ETH](#)

Large university cafeteria

Leonhardstrasse 34

### [Untere mensa UZH](#)



Large university cafeteria

Künstlergasse 10



Other UZH and ETH mesas are also open for lunch. Our staff will be happy to direct you, or see the list of mensas at [UZH](#) and [ETH](#).