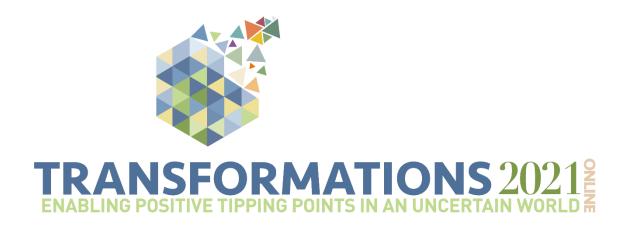# Transformations Community

Transformations 2021: Enabling Positive Tipping Points in an Uncertain World

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About the Transformations 2021:

In 2020 a tipping point may have been crossed on how societies worldwide deal with multiple overlapping crises. On an unprecedented scale we see groups and communities mobilizing to re-imagine and transform the pre-pandemic systems which led to current vulnerabilities, risks, and unsustainable practices. This challenging but also fertile moment calls for urgent knowledge synthesis able to enact positive tipping points and tipping interventions towards new regenerative development trajectories.

The TRANSFORMATIONS 2021 Conference will showcase the latest developments in research and practice of transformations towards sustainability, support and celebrate transdisciplinary learning networks for new collective international initiatives.

 Four streams will structure the event:

·   Stream 1: Transformative arts and culture

·   Stream 2: Transformative economies and organizations

·   Stream 3: Transformative science, action-oriented knowledge and governance

 ·   Stream 4: Enabling positive tipping points in socio-climate, energy, water and life-support coupled systems

Conference 2021 International Team

CONFERENCE CONVENERS:	J. David Tàbara - *Global Climate Forum, Berlin, Germany, & Autonomous University of Barcelona* Diego Galafassi - *Lucsus, Lund University & Founder Hum Studio Interactive, Personal Website*
INTERNATIONAL TRANSFORMATIONS COMMITTEE:	Niki Frantzeskaki - *Centre For Urban Transitions, Swinburne University Of Technology, Melbourne, Australia* Marco Grasso - *Università Degli Studi Di Milano-Bicocca, Italy* Katharina Hölscher - *DRIFT, The Netherlands* Asun Lera St. Clair - *Det Norske Veritas (DNV GL) - Group Technology And Research, Norway & Barcelona SuperComputing Center, Earth Sciences Services* Diana Mangalagiu -*Smith School Of Enterprise And Environment, University Of Oxford, Reims Management School In*

France, Sciences Po, Paris & Global Climate Forum, Berlin, Germany

Takeshi Takama- *CEO: Su-Re.Co (Sustainability & Resilience) Associate Stockholm Environment Institute, DPhil (Oxford) Udayana University, Bali*
Steve Waddell - *Co-Lead - SDG Transformations Forum*

Sessions at a glance (CET Time)

Practice Sessions	Interactive Sessions

17 June			18 June		
5:00			Co-Creative Australia		
6:00					
7:00	RESET: reclaim our original cognitive system	Community Economies - beyond price-based exchanges	Transformative Technologies and Digitalisation		
8:00	Transformative Agency - Labs, networks and leadership	Arts-based methods	Urban Transformations	Convening Inequality in Just Transition Care Nexus	Tools for transformations: Principles for purposeful systems change	Learning to Transform - Tools and cases 2
9:00	Positive Tipping Points in Food and Agricultural Systems 1	Tools for transformations: Practical methods for systems change	Designing Creative Methods for Community Engagement: Combining the Pragmatic and the Enchanting	Approaches for integrating diverse knowledge systems in urban transformation	Transformation As Praxis: Responding to Climate Change Uncertainties in Marginal Environments in South Asia	Sensuous Re-storying: Re-sensitizing the Tales we Tell for Transformations
10:00	Mapping transformative entanglements in creative practice	Transforming Extractive Industries 1	Positive Tipping Points in Food and Agricultural Systems 2	Creative and arts-based methods for sustainability transformations - lessons from the field	Plural Knowledges for Transformations	Arts and creative practices
11:00	Ethics and Values for Transformations	Transforming Education	Alternative Economies and Business Models	Co-Creative Africa		
12:00	Evaluation as a Pathway to Transformation for a Sustainable Future					
13:00	Nature-based solutions	Transformative Responses to Climate Uncertainties in South Asia	Transformations from within: Towards a 2nd person epistemologies & methodologies	Co-Creative Europe		
14:00	Opening Keynotes					
15:00						
15:45	Introducing Our Platform			"Gold Matters" - A virtual exhibition on transformations to sustainability in small-scale gold mining	Just Transitions: From Sectoral to Systemic Transformations	Positive Tipping Points - Theory and Methods 1
16:00	From transformation theory to action: bringing transformative thinking to life	Strengthening the role of justice in transformation governance	Global Challenges in Transformations	Leveraging multiplicity, systemic-design knowledge and real-world experimentation towards regenerative transformations	Climate Governance Transformations	Transformation and Stewardship: Strange bedfellows or complementary concepts?	Boundary Objects in Transdisciplinary Tranformations Research
17:00	Being the change			Tales of Uncertainty, Resilience and Transformation Through Visual Stories and Narratives		Positive Tipping Points - Theory and Methods 2

18:00	**Co-Creative South America**				**Closing session**			
19:00								
20:00	Fostering co-productive agility for transformation	Theories and Perspectives of Transformations	Local Knowledges	Transforming Worldviews Through Systems Thinking	Growing Roots of Sustainability in SMEs: Equipping SMEs to Lead as we 'Build Back Better'	The climate can wait no longer, and nor can we: urgent knowledge co-production for transformative climate action	Positive Tipping Points in SES (Climate and Natural Resources)
21:00	**Co-Creative North America**				Transforming Worldviews - New Practices and Narratives	Learning to Transform - Tools and cases 1	Facilitating Transformative Encounters: Learning from Latin American Conflicts
22:00					Personal and psychological transformations	Transforming Extractive Industries 2	Communication for Change

MAIN STAGE

OPENING KEYNOTES   Thursday 17ᵗʰ June

Welcome remarks:

J. David Tábara and Diego Galafassi

Introduction

Prof. Emily Boyd, Lund University Centre for Sustainability Studies

- Jessica Clark - Research affiliate at MIT Open Documentary Lab, publisher of Immerse.news *Building Equitable Media for Regenerative Futures*

- Kate Raworth - Co-founder of Doughnut Economics Action Lab *Transforming Economics for 21st Century Realities*

- Ailton Krenak - Philosopher and indigenous movement leader of Krenak ethnicity, Brazil *Tomorrow is Not for Sale*

- Heila Lotz-Sisitka - Distinguished Professor at Rhodes University *Transgressive Learning and Governance (TBC)*

Learn more and register here.

BEING THE CHANGE
Thursday 17ᵗʰ June

INTRODUCING OUR PLATFORM
Thursday 17ᵗʰ June

CLOSING SESSION
Friday 18ᵗʰ June

Learn more and register here.

The full program is available here:
http://tinyurl.com/tconf2021

*Notice the Transformations Conference is a collaboration with Future Earth's SRI Conference, hence registration and program are available within SRI's platform.

Co-Creative Sessions

Tipping points are inevitable. A central question is how transformative trajectories towards sustainability can be consolidated into practices, norms and institutions. Join leading scholars and practitioners in these 4 live co-creative sessions to explore together perspectives from four continents on social movements, narratives and decolonisation, social unrest and constitutional processes, regeneration and reconciliation. The Transformations Conference 2021 Co-Creative Sessions will explore political agency and new politics of transformations.

Co-Creative South America: Social Unrest in Latin America: A Tipping Point Opportunity for Transformation (June 17th)

Conveners: Paulina Aldunce and Diego Galafassi

Learn more and register here.

The South American Co-Creative session focuses on two inspiring cases of social tipping points, Chile and Colombia. In Chile the "estallido social" (social outbreak) demanding dignity, equity, and social justice, and in Colombia massive street mobilizations due to the discontent with government policies, including the poor implementation of the peace agreement. This co-creative session will focus on the constitutional process as a window of opportunity for establishing new transformative trajectories. We will hear first-hand from those involved in the process in Chile and Colombia. We will also hear from Guðrún Pétursdóttir, the Chair of the Icelandic Constitutional Committee and the popular participation in the reform of the Constitution following the economic break-down in 2008.

In presenting these practical cases, this co-creative session will move from practice to theory and then from theory to practice and is hence an invitation to transformations scholars to develop a theoretically informed perspective on these processes, the current situation, and ideas that can be useful for social actors for writing the future that has been triggered by strong social demands and unrest.

GUIDING CO-CREATIVE QUESTION:

Which theoretical lenses are helpful to understand these cases and what concrete ideas from theory can put forward to practitioners engaged in these unfolding transformative processes?

With contributions by:

- María Victoria LLorente, Fundación Ideas para la Paz: "The peace agreement in Colombia"
- Paulina Aldunce, University of Chile: "The "estallido social" (social outbreak) in Chile"
- Guðrún Pétursdóttir, Chair of the Constitutional Icelandic Committee: "Rewriting the Icelandic Constitution"
- Valentina Rosas, Tenemos que hablar de Chile: "Writing a new Constitution in Chile"

Co-Creative North America: How Do Street Protests Scale for Transformation? (June 17th)

Convener: Bruce Goldstein

Learn more and register [here](#).

In October 2019, the Transformations Community met in Santiago, Chile for our last biannual conference to share ideas about how to catalyze transformative systems change. Ironically, over the course of the conference transformative change was taking place right around us in Santiago. Starting from a small Twitter-spread youth protest, a broad-based mass-movement emerged that shook Chilean society to its political and economic core and created an opportunity to challenge the neoliberal social order through constitutional reform. Many of us didn't even notice what was happening until we emerged from a reception at an art museum to see student rioters in the streets. The next day, the non-Chilean participants were advised to shelter in our hotel rooms and leave the country as soon as possible. For those who did, they missed something they had been trying to find for years - as told in the Latin American co-creative session immediately preceding this one, these protests scaled rapidly to initiate a relatively bloodless and rapid transformative reform that had been frustrated in the many decades since the Dictator Augusto Pinochet left power.

In this co-creative session, we complement the close look at constitutional strategies in the Latin American co-creative session to focus on human agency at the street level. Reflecting on these events and other (Lebanon, Syria, Hong Kong, Brazil, Egypt, the U.S. and more), we ask:

GUIDING CO-CREATIVE QUESTION:

What enables street protest to scale up to a systems-changing movement without reliance on deliberate strategy or organized leadership?

In addition to exploring how protest strategies can catalyze systems change, we consider why the Transformation community is mostly disinterested – and occasionally even oblivious - in the transformative potential of street movements. What does it say about us that we restrict our interest in transformative practices to activities that can take place in meeting rooms, or within the safe confines of a government-funded projects or Foundation-supported initiatives?

With contributions by:

- Anton Törnberg, University of Gothenburg: "From grassroots mobilization to radical transformative change"
- Ravi S. Kudesia, Temple University: "How Strategy Emerged from Protest Crowds in Ferguson: The First 48 Hours"
- Anton Törnberg
- Jota Samper

Co-Creative Australia: Transforming Narratives of Place in Australia: Towards A Tipping Point? (June 18th)

Conveners: Chris Riedy, Michelle Maloney and Sam Wearne

Learn more and register here.

The most radical transformation in Australian history took place in 1788 when the British Empire laid claim to the island continent with no regard for the rich tapestry of Indigenous nations already living there. Tens of thousands of years of Aboriginal history, and the violent colonisation and subjugation that followed, were long buried in Australian narratives of place.

The purpose of this co-creation session is to explore how Australian narratives of place are transforming and what this tells us about the theory and practice of transformation in action. We will hear from several speakers about the narrative shifts they have been observing and their potential for positive transformation, from fields such as, regenerative agriculture, Earth-centred law and governance and new economics. We will then hear reflections from Indigenous speakers about the transformations they are witnessing, and what this means from their perspectives. Then, with help from participants, we will facilitate an interactive process to connect the Australian experience with other local narratives of place. Together, we will ask what these narrative transformations can tell us about the general dynamics of narrative transformation around the world.

With contributions by: Kerry Cochrane

Co-Creative Africa: 'Philosophical Underpinnings' in Decolonizing Research Methods for Transformation Towards Sustainability (June 18th)

Conveners: Joanes Atela, Joel Onyango

Learn more and register here.

In contributing to the decoloniality imperative, the session focuses on different ontological and epistemological perspectives associated with decolonizing methodologies. The session will involve a brief introduction on the concept of decolonizing methods for sustainability research to transformation, followed by a tripartite (academia/research, practice/practitioners, policy) engagement to: i) explore what philosophical underpinnings in sustainability research means in the various contexts; ii) define the implications of decolonizing the dominant narratives that are associated with the cultural diversity in the way knowledge is generated, used, and passed; iii) develop indicators for practice and policy in decolonizing how evidence in the space may be applicable; and iv) deliver a three-point research agenda for decolonizing research towards transformation sustainability (anchored in the philosophical development of research and practice).

With contributions by: Andrew Stirling, Laura Pereira, Nadia Sitas, and Jessica Cockburn

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Co-Creative Europe: Political Agency for Transformations: What Does It Take? (Friday 18th June)

Conveners: Karen O'Brien and Indra Adnan

Learn more and register here.

When it comes to global sustainability, there is no lack of agendas, roadmaps, blueprints, targets, and indicators. What is missing is an understanding of how transformative change actually comes about, especially in the face of active, multiscale resistance to transforming systems and structures in an equitable and sustainable manner. In this co-creative session, we will explore the qualities of political agency that are considered to be important, yet often overlooked in discussions about sustainability. A series of schort interventions from participants will highlight what matters when it comes to political agency. Break-out group discussions will offer participants an opportunity to contribute to a "top-five" list of qualities that define political agency within the context of transformations to sustainability.

With contributions by: Enock Nkulanga and Manjana Milkoreit

Individual sessions

Thursday 17ᵗʰ June

RESET- reclaim our original cognitive system
Jinan KB

Modernity needs to be experientially explored from a different perspective to understand the core issues that we are facing today. Modernity is the result of a cognitive crisis. What I mean by the cognitive crisis is the shift from learning as a natural, effortless, and biologically rooted process to learning as a conscious, mental process with effort.

Learn more and register [here](#).

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Community Economies – beyond price-based exchanges

Jessika Richter

Transformations for sustainability require revisiting and transforming ways of thinking that reduce value to only price-based transactions of goods or services. This lab focusses on how can we identify non-priced value and re-consider labour using examples of community organisations and activities.

Learn more and register [here](#).

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Transformative Agency - Labs, networks and leadership

Learn more and register for the Q&A [here](#).

- **Abeer Abdulnabi Ali: "The Continuation of Urban Real-World Laboratories between Theoretical Conception and Practical Implementation – An Empirical Study"**

The continuation and stabilization of urban real-world laboratories has the potential to contribute substantially to a successful socio-ecological transformation. Implementing actors face challenges which include time constraints related to project funding and the complexity of transdisciplinary research logic and practice. Selected externally funded research projects were assessed in terms of continuity,

transferability, contribution to transformation, reflexivity and learning processes and transdisciplinarity to determine how project frameworks affect the continuity of real-world laboratory elements. The findings indicate a tendency towards successful continuation of multi-stakeholder collaborations. A structural continuation of real-world laboratory activities by practitioners is also proven to be possible in various constellations. The termination of donor funded infrastructure and resources remains a major obstacle due to short project durations. The criteria of transdisciplinary research are accompanied by additional demands on the scientists, which in turn promote the increase in knowledge of method development and application but must also be considered in the context of lower output of peer-reviewed articles.

Watch the pre-recorded [presentation](#).

- **Rina Mardiana: "Addressing Partnerships for the SDGs Goals Through "BEKAL Pemimpin" Nurturing Emerging Environmental Leaders of Indonesia"**

BEKAL Pemimpin aims to nurturing Indonesia's emerging environmental leaders towards equitable, sustainable, and locally rooted natural resource management. It employs transdisciplinary co-creation.

Watch the pre-recorded [presentation](#).

- **Rina Mardiana: "Nurturing Emerging Environmental Leaders of Indonesia Towards Equitable, Sustainable, And Locally Rooted Natural Resource Management"**

A leadership capacity building program that aims to nurturing emerging environmental leaders of Indonesia towards equitable, sustainable, and locally rooted natural resource management.

Watch the pre-recorded [presentation](#).

- **Monique Potts: "Resilience and Learning for Uncertain Futures"**

Young people are growing up in increasingly complex and uncertain environments. This paper explores how experiential learning can help build individual and collective agency to support resilience.

Watch the pre-recorded [presentation](#).

- **Chris Riedy: "Transforming narratives: Discourse coalitions and discursive entrepreneurship"**

A neoliberal capitalist discourse dominates global affairs, with devastating effects for ecological integrity and social justice. This contribution explores narrative transformation as an important component of transformations towards sustainability. It draws together two recent papers. The first reviewed alternative discourses to surface discursive common ground and conflicts, arguing that this is an important step

towards the formation of discourse coalitions that could rival the political power of neoliberal capitalism. The second proposed a practice of discursive entrepreneurship, defined as creating, performing and transforming memes, stories, narratives and discourses to promote a desired structure of the discursive landscape. The formation of discourse coalitions and the pursuit of discursive entrepreneurship are positioned as key practices to contribute to the emergence of inclusive, life-affirming discourses that support sustainable futures.

Watch the pre-recorded presentation.

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Arts-based Methods

Learn more and register for the Q&A here.

- **Matthew Robertson: "Contemplative Poetics: From Trauma to Transformation"**

Systems are built as a reflection of the state of consciousness of their creators. In order to imagine, create, and transition to more sustainable and regenerative systems for human beings, we must recognize and embody those states of balance and harmony in ourselves. Then we have the possibility of bringing them out into the world through a creative process. Poetry is a primary medium for expressing the multiple intelligences of a human being; to understand the many layers of our experience, imagine new experiences entirely, and communicate the ineffable. It is a powerful tool for both catalyzing cathartic processes and for trapping emergent wisdom between metaphors. Both can lead to internal tipping points that instill lasting, transformative change for both the author and audience alike. I would plan to share/record 1-3 pieces of spoken word poetry and introduce a contemplative poetics practice I learned from Reed Bye at the Jack Kerouac School of Disembodied Poetics at Naropa University for the audience to take with them.

- **Catherine Sarah Young: "The Creative Resistance: Art, Science and Systems Change"**

How can art and science work together to contribute towards a sustainability? The artist and scholar explore this through the lens of original artworks that have been created and exhibited internationally and recontextualized through the years. Project include, but are not limited to: The Ephemeral Marvels Perfume Store, an olfactory installation of things we could lose because of climate change; The Sewer Soaperie, soaps created from raw sewage that will further exacerbate urban flooding that is caused by stronger typhoons; Climate Change Couture, potential garments of the future under specific environmental impacts; Experiments in Nature, a video performance series that depicts scientific experiments in the wild to interrogate the role of science in society; and Letters for Science, a participatory project that asks the public to write letters to science denialists to ask them to reconsider their views etc. Finally, the artist discusses at length her latest piece, The Weighing of the Heart, a sculptural installation series that casts the ashes and remains from the Australian bushfire crisis into human hearts as an invitation to reflect on the human toll that this crisis has wrought. www.apocalypse.cc

Watch the pre-recorded [presentation](#).

- **Sam Wearne: "Writing Transformations through Prose, Place, and Purpose. (A creative experiment in digital story-telling)"**

There is much attention in Sustainability Transformations about the need for humanity to overcome our separation from nature. We're also encouraged as researchers, to put ourselves in the picture- to reflexively consider and question our own biases and perspectives. Arts-based explorations are proving great pathways for transdisciplinary thinking and to facilitate individual transformations. They enable the exploration of concepts and complexity in ways than rational argumentation cannot. This is a creative story about one person's journey into transformations research. Reconnection is sometimes discussed as an abstract, conceptual task limited to the mind and spirit – and it undoubtedly includes those dimensions. But reconnection is also a physical process- it requires us getting more dirt under our toes, more swimming in our rivers, and more battling bugs in our bushlands and scrub. And it requires us talking more about nature and the places we inhabit. I have structured my story into a digital poster. I wanted to experiment to see if and how we might include nature in our stories and discussions, and as a way to reflect on ourselves. What follows is a three-layered poem or metaphor- there is an assertion, a tree, and a story of individual change.

Watch the pre-recorded [presentation](#).

- **Julia Bentz: "Creative, embodied practices and the potentialities for sustainability transformations"**

Research has pointed to the need to better integrate cognitive, emotional and embodied knowledges to generate equitable and enduring change. This study adopts an integrative approach, that reconnects body and mind, fuses art and science and integrates diverse forms of knowledge in an open, collaborative and creative way. Drawing on the experience of an arts-based project it explores embodied practices and their potential for societal change. It puts forward and enlivens an instance, where such forms of engaging communities can provide new insight into how equitable and sustainable transformations can come about. The process involved workshops with creative and embodied practices. From this process a space emerged for the creation of meaning about climate change. Three elements stood out as potentially important for meaning-making: the use of metaphors, embedding the project locally, and the use of creative, embodied practices. This furthers research suggesting that the arts can play a critical role in engaging people with new perspectives on climate change by offering opportunities for reflection and providing spaces for creative imagination and experimentation. Such processes may be important for contributing to the changes needed to realize transformations to sustainability.

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Urban Transformations

Learn more and register for the Q&A [here](#).

- **Evaluating the CUSSH programme: developing a framework to understand, evaluate and learn from the processes of transformational change towards health and sustainability**

It is widely agreed that transformative change is crucial to address the unprecedented collection of challenges affecting urban environments as complex systems. However, what is unclear is the process for transformation: by whom, how, to what effect. There is a need to develop evidence on how to achieve the transformation of cities needed to address environmental imperatives for planetary health. The Complex Urban Systems for Sustainability and Health aims to conduct policy-relevant research to support the transformation of cities to meet environmental imperatives and improve health. Within CUSSH there are different forms of engagement between research teams and policy-makers, with hubs of activity in six cities. It is imperative to understand and outline what has been tried, with whom, how and what results. We have developed a framework for evaluating CUSSH, linked to a programme theory. The theory unpacks the processes of knowledge production, taking a 'relational' perspective focused on how knowledge is shared, what effective collaboration looks like underpinned by common understanding. The evaluation framework breaks down what this means in practice: output markers; change markers; reflective questions. We describe the framework and reflections on its application.

Watch the pre-recorded presentation.

- **Yuliya Golbert, Abeer Abdulnabi Ali: "Transformative Solutions in the Global South: The (hidden) potentials of civil society actors for participative processes addressing sustainable waste management in Jakarta"**

The role of citizen participation in constructing urban spaces and contributing to sustainable transformation is increasingly being emphasised by governments as well as civil society actors. In Jakarta, waste management issues are subject to an increasing number of NGOs, social enterprises as well as waste banks. By analysing how participative processes within waste management efforts in Jakarta are conducted, we investigate potentials and barriers that evolve during the implementation. The study further aims to analyse the various perspectives and understandings of participation and sustainable development in Jakarta. During the analysis, critical examination of the current research state and, in particular, the implementation of participative processes is carried out. Semi-structured interviews will be conducted with civil society actors, such as NGOs as well as waste banks, and authorities from DKI Jakarta to get insights into participatory procedures. The study also analyses the legislative framework regarding citizen participation as well as waste management. The aim is to outline (hidden) potentials of participative solutions for sustainable waste management in cities of the Global South by using the case of Jakarta.

Watch the pre-recorded presentation.

- **Swati S. Shinde: "Understanding tipping points for transformational adaptations for urban floods in the context of climate extremes"**

The city of Mumbai is highly susceptible to impacts of urban flooding exacerbated due to climate change. Current flood management practices are response led, short term and adhoc in nature; focusing narrowly on engineering-based solutions such as drainage pipes, retaining walls and pumping stations, which alone are unlikely to solve the problem. The situation demands a shift towards proactive, inclusive, and holistic approach. The paper illustrates proactive measures taken by communities, political leaders and emergent groups, which serve as positive tipping points for adaptive flood management in an informal settlement located in chronic flood prone area within the catchment of Dahisar river in Mumbai. It provides an in-depth analysis of the networks, conditions, belief, motivations, value systems which caused these interventions to arise along with gaps and barriers. The research strives to design a transformational rather than coping and adaptive approach, to be more sustainable in the long run for responding to urban floods. The learnings can contribute to design of policies, practices and procedures for sustainable urban planning and local flood governance and enhanced knowledge by integrating future climate change risks in urban planning practice and disaster governance.

Watch the pre-recorded presentation.

- **Sara Skarp: "Rubbish and post-capitalist possibility: an exploration of waste and commoning for sustainability"**

Waste has been humanity's companion throughout history. We are no longer, however, looking at stone chips, but instead complex materials, microplastic pollution, and ever-increasing impacts of material extraction. While waste has been studied before, the lens of commoning has not been applied to rubbish. The aim of this research is thus to explore the combination of the two, and its possibilities for unlocking transformation towards sustainability and post-capitalism. Three UK-based Community Waste Projects (CWP's) were studied in-depth with the purpose of understanding their engagement with commoning features, e.g., cooperation and non-commodification, and if and how this offers transformative opportunities. I show that community-based responses to local and global issues create possibilities that go beyond effects on waste tonnage. Relocalising global issues and connecting trans-locally are two of the methodologies that groups intentionally and unintentionally use to instigate change. By investigating critical points of difference between community-based and mainstream capitalist waste systems and practices, I deepen our understanding of how simple acts of borrowing, reusing and picking litter can prefigure moments and spaces for post-capitalist possibility and transformation.

Watch the pre-recorded presentation.

- **Justus Wachs: "Revisioning and reclaiming the commons – learnings from Scotland"**

Earth in Common stewards a reclaimed land in Leith, Scotland - an Urban Croft. We aim to work with other Scottish communities to start similar Crofts. We think these connected communities could become an alternative to agro-industrial monopolies. We want to use our experiences to discuss contemporary interpretations of the commons, and what role common land can play in food sovereignty activism.

Watch the pre-recorded [presentation](#).

Positive Tipping Points in Food and Agricultural Systems 1

Learn more and register for the Q&A [here](#).

- **Cyrille Rigolot: "Reflections on the « soil » of transformations: The influence of context in past and future transformations of livestock farming in Japan and France"**

Livestock farming is essential for many human societies, but contributes massively to the current global ecological crisis. To transform the sector, the "seeds" metaphor sheds light on promising but still marginal innovative systems. A major question remains about how to upscale transformative changes, breaking up with the Western modernization paradigm at scale. This presentation addresses the influence of the context (the "soil") in the past and future transformations of livestock farming in Japan and France. In both countries, the livestock sector has already radically transformed in the last century, driven by common principles of modernization (rationalization, specialization…), and a main objective to produce more animal food. However, modernization pathways have been influenced by the specificities of each context, notably in terms of: 1) Geography (restricted versus large agricultural areas); 2) Historical basis (prohibition of animal product consumption versus deeply rooted traditions for meat and dairy production); 3) Anthropo-cultural background (Eastern versus Western culture). As "seeds" of sustainable livestock farming systems are locally emerging in both countries, we will discuss possible lessons for contextualized large sustainability transformations.

- **Frederic Huybrechs: "Fostering bottom-up actor coalitions for transforming complex rural territorial pathways"**

This contribution presents the perspective on rural transformations to sustainability of the TRUEPATH action-research project in the agrarian frontier in Nicaragua. We start from a 'territorial pathways' framework, assembled from diverse theoretical building blocks and empirically grounded in experiences with local development interventions. This framework holds that incumbent and transformative pathways emerge out of the power-laden interactions of the biophysical territory with dominant, respectively innovative configurations of ideas, social structures and 'rules-in-use'. We emphasize the centrality and political nature of the on-going territorial processes and acknowledge that uncertainty and epistemological plurality are inevitable characteristics of any change process, implying the impossibility to define any particular objective end-point of 'sustainability'. This has methodological consequences for our potential contributions to transformative change. We reflect upon the ambiguous role of actors (including ourselves) involved in action-research processes and position our expected contributions to transformative change vis-à-vis potentially transformative actor coalitions.

Watch the pre-recorded [presentation](#).

- **Aniek Hebinck: "Exploring the transformative potential of urban food: a future research agenda"**

Urban food systems are a key lever for transformative change towards sustainability, and research reporting on the role of urban food initiatives in supporting sustainability is increasing. However, an overview of such initiatives and their transformative potential is lacking, as contextual and disciplinary-fragmented research complicates what insights can be drawn to support larger-scale sustainability transformations. We provide such an overview by synthesizing multidisciplinary research on urban food initiatives and by exploring their transformative potential. We developed a typology for urban food initiatives and present a framework of processes and outcomes that are steppingstones to sustainable food system transformation. We show that different types of urban food initiatives perform distinct roles that support sustainability. Unpacking three areas of concern, we conclude with a future research agenda. This is a first step towards integration of urban food research and of providing urban food governance with the tools to shape more sustainable systems.

Watch the pre-recorded presentation.

- **Scarlett Benson, Talia Smith: "Accelerating the 10 Critical Transitions: Tipping Points for Food and Land Use Systems Transformation"**

In 2019 the Food and Land Use Coalition (FOLU) produced a Global Consultation Report, Growing Better: Ten Critical Transitions to Transform Food and Land Use. This report set out why a global transformation is needed, a vision for a better future and the reform agenda to achieve it. This agenda – anchored around ten critical transitions – is necessary to deliver climate mitigation, safeguard biological diversity, ensure healthier diets for all, improve food security and create more inclusive and resilient rural economies. To achieve Growing Better's vision, we need to unlock rapid change at pace and scale. As such, the FOLU team has been working with the University of Exeter Global Systems Institute (GSI) to explore how 'positive systemic tipping points' can unlock rapid rates of change across socio-technical, ecological and market/economic systems. FOLU & GSI have developed a framework - which needs to be further tested - for understanding systemic tipping points and identifying interventions to intentionally trigger cascading and reinforcing feedback loops in a system. The team believes that it has much broader applicability, but focus their analysis on applying it to food and land use systems transformation. The team will present this framework drawing upon examples from across the food and land use system transformation agenda - from healthy diets to sustainable agriculture to tropical forest protection.

Watch the pre-recorded presentation.

- **Nicholas Kimberly: "Hidden in Plain Sight: Redirecting European Farm Subsidies to Reduce Income Inequality and Support Biodiversity and Climate"**

Annual agricultural subsidies total over \$700 billion globally, and over €54 billion in the EU; they often drive environmental damage and fail to support social sustainability. We have created the first harmonized and spatially explicit dataset of farm subsidies across the EU. Our analysis reveals that €24 billion annually (nearly

40%) of total public spending under the Common Agricultural Policy (CAP) exacerbates income inequality, because payments went to areas where average farm incomes are already above the EU median income. A further €2.5 billion in rural development payments went to primarily urban areas. Less than 15% of spending benefitted climate- or biodiversity-friendly farming. Farm subsidies need to change fundamentally to meet sustainability goals. For example, the €24 billion in unnecessary income support could more than pay for the estimated €20 billion needed to meet the EU's Biodiversity Strategy commitments. Reforming farm subsidies away from supporting income in regions where farming is already profitable, to needs-based income support and results-based payments for farmers adopting environment- and climate-friendly practices, will be a critical factor in leveraging system transformations toward sustainability.

Watch the pre-recorded presentation.

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Tools for transformations: Practical methods for systems change

Jessica Cockburn, Johan Holmén, Gavin McCrory, Steve Williams, John Holmberg

Are you grappling with tools and methods for transformation? Are you interested in exchanging, sharing, and learning with others who are committed to transformative change? In this session, we aim to share experiences on practical methods for systems change. We invite action-researchers, scholar activists, pracademics and all those who harbour an ambition to engage in transformative change processes in context to join us.

Tools for transformation are not only practical in nature, but implicit within them are various assumptions around power, structure, agency and learning. As organizers, we are involved in designing, researching and facilitating ongoing change processes. We cross both socio-technical and social-ecological system perspectives, connected to both educational and real-world contexts. Our approaches rest upon an action-oriented understanding of tools for transformation, where binaries between knowledge and action are insufficient for the deeply contingent nature of transformations towards sustainability. We are particularly interested in tools that can be used to deliberately guide and enable change in a purposeful manner.

During this T-Lab session, we aim to create a space for meaningful conversations and exchanges. We hope to learn from each other, regardless of context or background. Therefore, we will remain inclusive, interactive, and flexible in terms of format. Initially, we will encourage participants (both individually and in groups) to share expectations and experiences related to tools for transformation. We will then build upon the composition of the group and the nature of experiences to enrich our engagement with such tools in future processes. Further, this session provides a basis for further exploration in our sister session "Tools for transformations: Principles for purposeful systems change". In this follow-on sister session we will explore some of the principles, values and philosophies that underpin tools for transformation and what this means not only for WHAT tools are applied, but also HOW they are applied.

Learn more and register here.

Designing Creative Methods for Community Engagement: Combining the Pragmatic and the Enchanting

Kelli Rose Pearson

How can we design and operationalize creative methods that can be used in both community engagement and in research for sustainability transformations? Using games, this session explores how creative methods can: 1) engage different styles of learning and participating 2) flatten hierarchies 3) open new spaces of possibility.

Learn more and register here.

Mapping transformative entanglements in creative practice
Cristina Ampatzidou, Lara Houston

The Session will focus on mapping and temporal analysis of the complexecosystems within which creative practices operate. During the 1.5 hours workshop, researchers and creative practitioners will present relevant work and engage in a hands-on exercise to identify how entanglements within creative networks contribute to socio-ecological transformation. The session is hosted by the CreaTures project.

Learn more and register here.

Transforming Extractive Industries 1

Learn more and register for the Q&A here.

- **Eleanor Fisher: "Becoming-with Gaia: Relational Anthropological Perspectives on Sustainability Transformations"**

Thinking on transformations to sustainability is premised on the idea that it is necessary to transform our world. However, what exactly does it mean to transform our world and to do this in a sustainable manner? What do we need to transform and for whom? There is a growing body of literature on transformative change, but many questions remain on how transformation actually occurs and, equally, why it does not. Or indeed, whether attempts to generate features such as "positive tipping points" can account for unintended consequences. Furthermore, and importantly, as post-human and new materialist approaches have observed, the problem of how to include the claims, needs and agencies of other living creatures has often remained excluded from

the sustainability equation, an issue that has re-emerged in thinking on transformations to sustainability. Hence, while the literature gives growing attention to the role of human agency in transformation processes, how can we better account for non-human agents of change when considering who (or what) are the transformers? This paper addresses these issues with a focus of attention on Ingold's notion of environment and Latour's elaboration of the Gaia hypothesis to propose the need to rethink notions of "transformation" and "world".

Watch the pre-recorded [presentation](#).

- **Eleanor Fisher: "Transforming Matters: Sustaining Gold Lifeways in Small-scale Mining"**

This contribution addresses thinking on transformations to sustainability in relation to small-scale gold mining in the Global South: Whether in principle or practice, national growth strategies in mining regions promote resource extraction based on large-scale operations; in effect, government policies and private sector strategies reinforce critical barriers to sustainability in small-scale gold mining. One consequence is that gold miners are demonized as the "sustainability problem" within governance processes that are politically charged. Against this background, this paper addresses whether it is possible to give value to miners' perspectives on sustainability, and to do this in ways that create possibilities for transformative action. Illustrative examples are given from Africa and South America. The notion of gold lifeways is used to ground transformative thinking and action within contextually situated understandings of change, placing emphasis on the need to recognizing the significance of agency, materiality and heterogeneity in shaping mining futures in worlds of extraction.

- **Luciana Massaro: "Sustainable small-scale gold mining? Goals and obstacles from garimpeiro communities in the Brazilian Amazon"**

Artisanal and small-scale gold mining (ASGM) is one of the most significant economic opportunities for rural communities across the Brazilian Amazon, but at the same time it poses serious threats to the natural environment. Despite a dreadful picture, today, ASGM is globally undergoing a process of change that include socially and environmentally sustainable practices. While engaging with the notion of responsible mining and transformation to sustainability, we will discuss if and how Brazilian small-scale gold miners (or garimpeiros) explore practices of sustainability answering important questions as: which are the elements (social, economic, political, etc.) that hinder, or favor, the achievement of environmentally sustainable solutions? We will show that today garimpeiros are willing to build a future within a legal framework and that deciding to engage with practices of sustainability is stepping into the usual mining practices. Although, there are still are many gaps in the regulations where the activity can be run between informality and illegality, so hindering the transformative process endorsed by many responsible miners, and even increasing the extension of the negative environmental impacts

Watch the pre-recorded [presentation](#).

- **Esther van de Camp: "Transformations and sustainability in small-scale gold mining in Busia, Uganda"**

Within current transformations to sustainability (T2S) trends, it seems ever more challenging to understand artisanal and small-scale gold mining (ASGM) as a viable source of income and employment, now or in the future. This PhD project researches transformation and sustainability in ASGM in Busia, Uganda. It uses an interdisciplinary approach with research methods from industrial ecology and anthropology: including, participatory observation, semi-structured interviews, transect walks, life cycle assessment (LCA) and scenario planning. At Transformations 2021, I aim to guide and localise the issue of T2S in two steps: a) an analysis of in-depth geopolitics and technologies of three neighboring small-scale gold mining organisations, and b) preliminary results of a Scenario Planning with these organisations that is now ongoing in pandemic. Ethnographic fieldwork took place in July-October 2019 and January-March 2020 – additional research will be conducted digitally or in Busia depending on developments around COVID-19. Preliminary findings indicate both sustainability evidence and the complexity of ASGM dynamics that are part of underground and on the ground socio-natures.

Watch the pre-recorded presentation.

- **Luisa Rodríguez Gaitan: "Reconocimiento de los derechos étnico-territoriales del Consejo Comunitario Afrodescendiente de Tabaco, sur de La Guajira (Colombia)"**

La comunidad afrodescendiente de Tabaco (sur de La Guajira en Colombia) fue desplazada y desarraigada hace 20 años para dar paso a la explotación de carbón a cielo abierto. Desde entonces, exige al Estado colombiano y a la empresa Carbones del Cerrejón que se le restablezcan sus derechos étnico-territoriales. Ante las promesas incumplidas de reubicación, reconstrucción del tejido comunitario y fomento de proyectos productivos, han surgido reflexiones comunitarias sobre la necesidad de diseñar un plan piloto para la reactivación de la "vida sabrosa". Esta propuesta se piensa a través de una economía solidaria, propia y autónoma en un contexto de rupturas y continuidades del modelo extractivo en la región. El caso permite pensar propuestas de transformaciones desde las prácticas culturales, sociales y ambientales de las comunidades étnicas. La propuesta de Tabaco no solo plantea iniciativas económicas, sino que está pensada de manera integral, en el caso de esta conferencia aportaría principalmente a la línea de alternativas económicas. El caso presentado es estudiado conjuntamente por miembros del Consejo Comunitario de Tabaco y el CINEP organización colombiana de derechos humanos que acompaña a las comunidades en la exigibilidad de sus derechos étnicos- territoriales.

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Positive Tipping Points in Food and Agricultural Systems 2

Learn more and register for the Q&A here.

- **Karin Eliasson: "Transformations towards sustainable food systems – levers of change from a European perspective"**

This study explores features of food system transformations towards sustainability based on perspectives of Swedish food system stakeholders and analyses these in light of the Farm to Fork Strategy. Transformations towards sustainable food systems have been pointed out as a core challenge to achieve the United Nations' 2030 Agenda and the need for more sustainable food systems has been recognised in the European Green Deal and its Farm to Fork Strategy. The Swedish ambition to be a leader in reaching the 2030 Agenda and the European Commission's aspiration for Europe to lead global food system transformations offer a critical opportunity to study transformational processes and agents of change in a high-income region with externalised sustainability impacts. Drawing on theories of complex systems transformations, this study identifies levers of change in food systems, exploring drivers and barriers for transformations as well as roles, responsibilities and agency related to these changes. The study discusses how food system transformations could be enabled or governed and the role the Farm to Fork Strategy in a Swedish context. In a wider scope these results shed light on required capacities and conditions for socio-economic and political transformations toward sustainability.

Watch the pre-recorded presentation.

- **Tschersich Julia: "How real utopias alter paradigms - applying the transformation framework"**

Research approaches to transformation offer valuable insights how to fundamentally transform social-ecological systems. They do yet not sufficiently build on one another, though. Moreover, we do not yet sufficiently understand how and whether smaller initiatives or real utopias on the ground can contribute to a large-scale transformation. To address these gaps, we apply the Social-Ecological Transformation framework (Sievers-Glotzbach & Tschersich, 2019) developed to bridge process-oriented and structural transformation approaches to assess the transformative potential of Seed Commons initiatives. Seed Commons challenge the ongoing commodification and enclosure in the seed sector by managing seeds collectively. The analysis shows that Seed Commons have a transformative character by challenging central paradigms that constitute unsustainable trajectories. However, their transformative impact still needs to be enhanced: While having developed a robust alternative by building strong networks and campaigning politically with a holistic approach that prevents cooption, predominant hindering institutions and power relations are still in place. This application of the transformation framework shows its suitability to assess the transformative potential of smaller initiatives.

Watch the pre-recorded presentation.

- **Werner Rolf: "Peri-Urban Farmland as Part of Green Infrastructure – Creating an Arena for Sustainability Transitions"**

Urbanization and agricultural land use are two of the main drivers of global changes with effects on ecosystem functions and human wellbeing. Green infrastructure as a new approach in spatial planning contributing to sustainable urban development, and to address urban challenges, such as biodiversity conservation, climate change adaptation, green economy development, and social cohesion. This presentation sheds light on the opportunities that arise from the integration of the peri-urban farmland in the green infrastructure concept to support transformation towards a more sustainable development. First, is illustrates the inherent green infrastructure

principle of multifunctionality that largely contributes to the generation of co-benefits that are considered crucial to trigger transformative processes. Secondly, the presentation will be reflecting on a conducted participatory approach in the light of the four principles for co-knowledge production in sustainability research. The work finally concludes that linking peri-urban farmland with the green infrastructure concept is a promising field of action that can lead to the development of new pathways for urban transformation towards sustainable urban development.

Watch the pre-recorded presentation.

- **Juliette Young: "Delivering sustainable agriculture through transformational conflict science"**

Agriculture provides essential goods and services supporting human wellbeing, but in a changing world there is a need to transform towards more durable food production systems. This process, however, creates conflicts between actors with strongly held and often opposing views on how best to achieve such a transformation. We argue that reframing the agricultural crisis as a conflict offers the potential for achieving innovative and sustainable solutions, implying fundamental changes in 1) individual perceptions of the conflict, 2) the approaches used to mitigate conflict at the institutional and cultural levels, and 3) the relationship between people in conflict. We present a novel theoretical transformation framework applied to conflicts in agricultural contexts before outlining preliminary results from three case studies in France (around apiculture, viticulture and water quality), where conflicts exist regarding the reduction of pesticides in agriculture in the transition towards agroecology. Qualitative interviews from these case studies outline a range of conflicts and how conflict and crisis across these case studies can act as positive tipping points for transformation towards more sustainable agriculture.

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Ethics and Values for Transformations

Learn more and register for the Q&A here

- **Giuseppe Feola: "(Un)making sustainability transformation beyond capitalism"**

Theorizations of sustainability transformation have foregrounded the creation (making) of novel socioecological arrangements, but have obscured the deliberate deconstruction (unmaking) of existing, unsustainable ones. Yet, with ever more compelling evidence of the unsustainability and lock-in of capitalist development, it is problematic to assume transformation can happen by mere addition of supposed technological, social, or cultural 'solutions'. We need to better understand if and how the subtraction of problematic existing institutions, forms of knowledge, practices, imaginaries, and power and human-non-human relations matter in sustainability transformation. The aim of this paper is to advance theorizations of sustainability transformation by specifically disentangling processes of construction and

deconstruction. The paper uses the case of Territorios Campesinos Agroalimentarios (TCA): a peasant movement in Colombia that is engaged in the construction of a socio-economic model based on relational ontologies and principles of autonomy, dignity and sufficiency. The paper identifies processes of unmaking of capitalism in TCA, discusses their diversity beyond siloed paradigms or disciplines, and shows how they interplay concretely with the making of post-capitalist realities.

Watch the pre-recorded presentation.

- **Christopher Ives: "The transformative potential of religious beliefs and worldviews: A case study of "Saying Yes to Life"**

There is scant research on religion and sustainability transformations. We explored the impact of the Archbishop of Canterbury's environmentally-themed Lent Book 2020 "Saying Yes to Life" on environmental values, attitudes and behaviours of lay Christians. An online survey administered before and after reading the book assessed environmental values, New Ecological Paradigm (NEP), connectedness to nature, and environmental behaviours. 245 responses were received; 81 both before and after. Analysis of paired data revealed increased environmental behaviours after completing the book, especially for energy, food and recycling. Higher NEP scores and stronger connectedness to nature were also found. Focus group discussions revealed diverse participant experiences, including having pre-existing theological beliefs affirmed, responding with new practical actions, connecting with spiritual experiences, and discovering systemic origins of unsustainability. Findings suggest potential for religiously-framed environmental messaging to influence individual mindsets, shape attitudinal paradigms, and enable behaviour change. More intentional engagement with religion may facilitate transformative change for sustainability across inner and outer, and individual and organisational domains.

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- **Jinan KB: "Redefining sustainability based on the cognitive paradigm of indigenous cultures"**

Sustainability is the way of Nature. It can't be practiced as an afterthought. A sustainable system is one in which harmony of all aspects of production- man, material, method- has a symbiotic relationship. In the act of engaging with the world, man is awakened to the cyclic nature of life. This defines the process and the way material- re source-able, renew-able, re generate-able and recycle-able- is used. The linear, exponential 'growth' of modernity and sustainable, re-cyclic change among indigenous cultures are formed by respective cognitive conditions. An objective enquiry is called for to understand how the respective world views- one of alienation and the formation of anthropocentric being and other reintegration and biocentric being- are formed. So, what needs to be explored are the two paradigms of being- one which the very notion of 'waste' is absent and the other which generates waste from almost all activities it engages with. This is important as we represent the latter group and indigenous communities, the first group. The structure of the relationship between the two groups involved in this transaction is clear. one has power over the other group - politically, economically, and technologically and hence defines the meaning and method of all this.

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Transforming Education

Learn more and register for the Q&A here.

- **O. Care: "Creating leadership collectives for sustainability transformations"**

The role of science and knowledge generation is seen as key to advance urgently needed sustainability transformations. However, the current academic system discourages the type of leadership required for sustainability transformations. Its focus on output-based metrics and internationally-mobile careers favours individuals able to pursue prestige and promote personal excellence within specific disciplines. In our paper we argue that, instead, enduring sustainability challenges require a new model of collective leadership that embraces critical reflection, inclusivity and care. Most notably, this includes fundamental changes in the structure of academia: from metrics- to merits-based rewards, from a focus on career to care, and from disciplinarily-bounded to inter- and trans-disciplinary research. Academic organisations need to reorient their training programs, work ethics and reward systems to encourage collective excellence and to allow space for future leaders to develop and enact a radically reimagined vision of how to lead as a collective with care for people and the planet.

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- **Laura Soledad Norton: "The cultural bases behind a radical transformation. Policies and practices of sustainability and inclusiveness in an Argentinean network of universities"**

This contribution focuses on how radical transformations are enabled by universities as cultural and social actors/communities with their own roots. Tensions between shared visions and situated differences are here explored with relation to the Agenda 2030 by focusing on the case of the Argentinean Universities for Environmental Management and Social Inclusion network (UAGAIS). By mediating the culturally situated conceptualization of social commitment with global discourse, UAGAIS seems to enable a non-Western worldview of sustainable and transformative knowledge through the concept of "extension", that may lead to tipping points. In-depth interviews with key members of UAGAIS touched on issues including the sustainability agenda, its inclusion and translation into universities policies, culture and practices. Discourse analysis, informed by cultural psychology approach, identified shared interpretative repertoires regarding the positioning of participants, the boundaries between universities and society, and the conflicts which the network is dealing with. Results provide a critical point of view of western and North hemisphere assumptions about SDGs by introducing alternative and culturally viable visions of sustainability, social inclusion and transformative knowledge.

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- **Justus Wachs: "Hacking' methodologies within narrow policy frames"**

I ran various 7-week intro to climate change courses within a narrow policy environment of Scotland's climate goal implementation. Instead of focusing only on behaviour change, I made the course an open space to ask more critical questions about capitalist political economies. I want to discuss 'hacking' narrow methodologies for emancipatory ends, and evaluate participatory knowledge creation.

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Alternative Economies and New Business Models

Learn more and register for the Q&A here.

- **João Bernardo Casali: "Regenerative Enterprises"**

The article that I will write relates the role that businesses play to unfold the transition to a new economy that is inclusive, regenerative and resilient.

- **Jennifer Rao-Williams: "Entrepreneurs as transformers: The role of sustainable business practices in building resilient local communities"**

The multiple shocks produced by the spread of the novel coronavirus COVID-19 pandemic are laying bare the fragility and vulnerabilities of global and local economies, drawing attention to the narrow capabilities of small- and medium-sized enterprises (SMEs) to withstand the impacts of these disruptions. The pandemic has shifted from a health hazard into a cascading and system-wide disaster that poses fundamental questions about the resilience of our communities. In this shifting landscape, our research evidences how different business configurations and sustainability-oriented models deploy practices that influence the capacity of firms to survive and even thrive in times of shock and disruption. Entrepreneurs have been increasingly recognized as enabling actors in sustainability transition pathways, with the potential to overcome barriers, think creatively, and mobilize resources to accelerate community transitions toward sustainability. Supporting, replicating, and amplifying these practices, can make strategic contributions to securing a prosperous, sustainable and climate resilient future. Six thematic areas of practice emerged, wherein enterprises offered strategic contributions to various scales of resilience through deeply sustainable practices.

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- **Dina Hestad: "The role of Sustainability-Oriented Hybrid Organisations in the development of transformative capacities: the case of Barcelona"**

Organisations can play a decisive role in steering societies towards sustainable, resilient, and regenerative pathways of development. However, little is known empirically about how they do so. Such knowledge is vital as COVID-19 has laid bare the need for a wide range of systems transformations. We examine the role of Sustainability-Oriented Hybrid Organisations (SOHOs), which use market related practices to solve social and environmental problems, in building foundational transformative capacities for regenerative sustainability. We further develop an existing framework and operationalise transformative capacities as: reconnecting social and ecological systems; fostering healthy individual and political agency; and building rich community relationships and social cohesion. Through this lens we explore the practices, activities, and strategies of nine SOHOs in and around the Metropolitan Area of Barcelona. We show that SOHOs emerge from and are decisive in further building transformative capacities within communities creating a contagious virtuous cycle. Yet, their strategies and actions can harm the citywide development of these capacities. Institutional innovations, enabling environments, and critical learning approaches are needed to avoid unintended negative consequences.

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Evaluation as a Pathway to Transformation for a Sustainable Future

Scott Chaplowe, Adam Hejnowicz, Jaideep Visave

The call for transformation is for radical innovation if humanity is to survive. As a field that straddles both theory and practice, evaluation is uniquely positioned as a passageway for transformational learning and change. This T-Lab will examine this potential in sustainable development, an industry tasked with securing the future of humanity and the resources that sustain it.

Learn more and register here.

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Nature-based solutions

Learn more and register for the Q&A here.

- **Fabiana Barbi: "Local climate strategies: The role of Nature based Solutions in Brazilian cities"**

Nature-Based Solutions (NbS), as deliberate interventions that can be inspired by nature or support it in addressing urban challenges, are amongst other practices that relate to transformations towards more sustainable cities. This work is guided by the following question: how are NbS integrated into urban development in Brazilian cities? Focusing on the actors establishing, driving and scaling these solutions in and across cities, our results have shown that NbS have transformative social impact since they mediate new social relations and new social configurations contributing to social innovation in cities, with potential to change nature perception and human-nature

relations in urban contexts. We built from evidence in four cities within the State of São Paulo, where NbS are integrated into urban planning and development and are driven above all by the participation of local governments in projects conducted by non-governmental actors, such as the cooperation networks of municipalities and international cooperation agencies with other countries. The articulation between these different actors have opened new paths for urban and climate governance in Brazilian cities, which advocate the conservation and restoration of ecosystems.

Watch the pre-recorded presentation.

- **Emmanuelle Cohen-Shacham: "Implementing the Global Standard for Nature-based Solutions for achieving transformational change and addressing societal challenges"**

Nature-based Solutions (NbS) are "actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits". Given their current fast increasing uptake in science, policy and practice, NbS have an exceptional potential to contribute to transformational changes. The Global Standard for NbS was recently launched and can serve as a main tool for promoting integrated approaches and addressing main societal challenges. Its eight Criteria support users in identifying actions that can be taken to further strengthen the robustness of the interventions, such as by building adaptive management mechanisms during and ensuring an inclusive, transparent and empowering governance processes during its implementation phase. These transformations aim to improve resilience and sustainability of communities. We will present the NbS definition and principles, and their foundational link to the NbS Standard. We will then explore in detail how the Standard's Criteria can help achieve transformational change, and if there are any gaps to be addressed.

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- **Dorian Fougeres: "Transformative Conservation in the Lake Tahoe Social-Ecological System"**

This paper advances the praxis of "transformative conservation" (TC). We first situate the concept in relation to global biodiversity and climate change mitigation initiatives, including area-based conservation targets, natural climate solutions (NCS), and nature-based solutions (NBS). Our subsequent review of the scholarly literature covers scientific, political ecological, and ontological critiques. Thereafter we define TC and present the case of the Lake Tahoe Basin, in the United States of America. We argue for six recommendations that can accelerate such work. We substantiate each recommendation with extant literature and with practical implementation at Tahoe. Altogether the case demonstrates the portfolio approach to transformation that a large public agency and stakeholder community has undertaken. The paper contributes to scholarly debates over biodiversity conservation, climate change mitigation, and transformative change; offers insights to those facilitating just, sustainable, and regenerative transformations; and identifies areas of theory and practice ripe for further exploration.

- **Liette Vasseur: "Developing Ecosystem Governance principles to sustain transformations"**

The concept of ecosystem governance is increasingly used with the idea that previous attempts to engage all stakeholders regarding sustainability and transformations have had limited success. The 'business as usual' mentality based on economic growth with the three pillars of sustainable development viewed as silos are not conducive in transforming the current system towards a more sustainable future. Ecosystem governance demonstrates that profound changes in ways how we understand the natural environment and how we connect with it are essential for safeguarding the future. However, principles are needed to ensure the ongoing transformations are effectively adopted and adapted to local scenarios. Ecosystem governance is based on ideas of participation and sustainability, embracing the subsidiarity principle to bring solutions and actions that are based on holistic social-ecological system approach. In this contribution, we discuss the principles that should support ecosystem governance such as community participation, inclusion, equity, adaptive management, interconnectivity and space. This approach will require fundamental transformation in ways policies are developed as it is based on having the bottom-up meeting the top-down in co-defining appropriate space-based solutions.

Watch the pre-recorded [presentation](#).

- **Pam McElwee: "Embracing cultural transformations in Nature-based solutions"**

The recent support for Nature-based Solutions (NbS) as a way to tackle both biodiversity and climate challenges has led scholars to call for projects that conserve, restore and provide opportunities to thrive with nature. Yet many questions remain around the best ways to promote successful NbS in specific contexts. Indigenous people in particular have expressed concern about the challenges in engaging with NbS and the need for attention to cultural, justice and knowledge issues. In order for NbS to fulfill its promise as a transformative paradigm for management of nature, inclusive communities and stakeholders need to see a role for themselves in NbS interventions, and such interventions need to draw on cultural relationships and practices that communities have with nature. We will outline some examples of ways in which NbS interventions have successfully incorporated cultural issues ranging from indigenous knowledge to language transmission.

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- **Cara Nelson: "Principles and Standards as a Tool for Transformative Change for Ecological Restoration"**

Increasing investment in ecological restoration has the potential to result in substantial repair of socio-ecological systems. To date, however, too many restoration programs and projects have underperformed or failed, despite good intentions. Adoption of principles and standards for the field has the potential to be transformative in terms of improving net-gain for biodiversity and human wellbeing from restoration programs and projects. Towards that end, the Society for Ecological Restoration (SER) developed International Principles and Standards for the Practice of

Ecological Restoration (the "Standards"). The SER Standards, which were drafted with extensive consultation from the global restoration community over a two-year period, advance 8 principles that underlie best practice for ecological restoration and provide guidance for developing, implementing and monitoring restoration projects. As such, they are a powerful tool for maximizing investments in ecosystem and landscape repair to restore biodiversity, improve human wellbeing, and reconnect nature and culture. These standards are also related to Nature-based Solutions that promote transformations for greater sustainability.

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Transformative Responses to Climate Uncertainties in South Asia

Learn more and register for the Q&A here.

- **Hans Adam: "Arresting Environmental Collapse, Restoring Resource-based Livelihoods: Transforming Koli Fisherfolk in and with Mumbai"**

The Mumbai region is frequently cited as among the most vulnerable urban agglomerations in the world to climate change impacts. In addition, rapid degradation and encroachment on coastal ecosystems due to urban development, pollution, and coastal infrastructure projects, threaten more damage as these ecosystems. Through a collaborative project involving the vulnerable fisherfolk in one of the city's Koliwadas (fishing villages), a local NGO, researchers, and local leaders, an attempt is made to co-produce hybrid knowledge combining indigenous understandings of ecosystem changes and climate impacts with science-based risk scenarios. The team will then design and implement a transformative plan with potential to arrest further environmental collapse, restore resource-based livelihoods, and provide greater autonomy in local level environmental governance to the Koliwada. This paper, while documenting these efforts, will critique ongoing urban planning processes and visions along a fragile coastal zone, and showcase the ways in which the health of urban ecosystems and livelihoods is crucial for disaster risk reduction, climate risk mitigation, and sustainable urban design.

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- **Ranit Chatterjee: "Integration of New and future Risks into Transformative Adaptation for Sustainability: Case of Milk Businesses in Kutch"**

Community based transformative adaptation is majorly a reactive process of making fundamental systemic changes to cushion past stress events which has led to uncertainties in life and livelihoods. But studies to understand how these changes integrate new and future risks to create a window for readjustments is limited. In this backdrop, this paper focus on the new and future risks that threaten the buffalo and

camel milk businesses led by the pastoralists in the Kutch district of Gujarat, India. The sustainability of the milk business is linked to the ecosystem services, hazard events and the shift due to the development process specially after the 2001 earthquake. To decipher these causal linkages, a mixed approach, integrating natural sciences and social sciences is taken to identify the knowledge induced changes from "Below". Risk assessment and trend analysis of past hazards events are done to identify the known and new risks the area is prone. These risks are discussed with the pastoralists to identify what modifications are needed and what future risks might emerge in the milk business. These discussions from "Below" indicate a list of necessary steps to realign the transformative adaptation trajectory for sustainability.

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- **Synne Movik: "Transformation as Praxis: Responding to Climate Change Uncertainties in Marginal Environments in South Asia"**

This paper provides some of the conceptual and methodological underpinnings being developed as part of an ongoing project (TAPESTRY - Transformation as Praxis: Exploring Socially Just and Transdisciplinary Pathways to Sustainability in Marginal Environments). We debate how the notion of transformation may be conceptualized from 'below' in marginal environments that are especially marked by high levels of climate-related uncertainties. We propose the notion of transformation as praxis – where the focus is on bottom-up change, identities, wellbeing and the recovery of agency by marginalized people and explore how 'patches' and the 'marginal' offer critical conceptual templates to examine whether and how systemic transformative changes are being assembled and effected on the ground by hybrid and transformative alliances. We also discuss potential challenges of such engagements, alongside pursuing a normative and political approach to transformations to sustainability.

Watch the pre-recorded [presentation](#).

- **Shilpi Srivastava: "Dryland transformations: Reviving pastoralist livelihoods in Kutch, India"**

We focus on transformations from below in Kutch, which is the second-largest dryland tract in India and is home to a dynamic ecosystem. Drylands are highly unpredictable ecosystems, characterised by erratic rainfall and high climatic variability. Pastoralists have long learnt to harness this variability to support sustainable livelihoods by drawing on their indigenous knowledge systems. Despite their potential productivity, drylands are often denigrated as 'wastelands' or 'degraded environments' in the official discourses leading to the marginalisation of pastoralism. This resonates with the development trajectory of Kutch where state policies have systematically ignored the dynamics around uncertainty and water scarcity and relegated these landscapes as marginal. We focus on transformation as a praxis between two discourses: 'wastelands and marginal livelihoods' and 'productive landscapes and resilient livelihoods'. We analyse how a bottom-up initiative around the camel milk economy is attempting to reframe the discourse about pastoralism by challenging the dominant state paradigms. Furthermore, we analyse its intersection with the 'invisible' care economy and intergenerational perspectives on pastoralism, thus underlining the contested trajectories of this initiative.

Watch the pre-recorded presentation.

Transformations from within: Towards a 2nd person epistemologies & methodology

Jesús M. Siqueiros, Alex Penn, Lakshmi Charli-Joseph, Beth Cullen, Marina Apgar, Andrew Stirling

Structural, systemic and enabling transformations towards sustainability require reconnecting to our local environment and the biosphere in general (i.e., Folke et al. 2011, Scones et al. 2020, among others). With the aim of contributing to this notion, for us the meaning of reconnecting is to acknowledge our position as scientists and society in general as embedded in a world that is experientially meaningful to us. We posit that transformations need to start with our recognition that we are not acting on a world that we are detached from, but that it is a world in which we live, we are part of it, and shared among us meaningfully.

We posit that reconnecting to the biosphere needs radical approaches. In this spirit, we suggest exploring the notion of 2nd person epistemologies and methodologies. We have worked on the idea of 2nd person perspective, yet is still a primitive intuition that we broadly understand as one that: 1) Intends to bring together the 3rd person methodologies of science with the 1st person meaningful experiences of the world as we live it –from within; and 2) Demands to address others –human and non-human-as subjects, recognising the authenticity of their experiences as living the system we share, rather than approach them as mere objects of study, alien to our existence.

As part of the STEPS Centre 2021 theme focused on Methods, this Practice Session will be centred on the exploration of the notion of 2nd person epistemologies and methodologies.

From transformation theory to action: bringing transformative thinking to life
Marta Calamita

This session will explore how funders, policy makers and implementers can translate theories of transformation relevant to socio-climate, energy, water and life-support coupled systems into actionable strategies. The topic is relevant for funders, strategists, implementers and other practioners interested in applying theory of transformation into their respective contexts. It can accommodate a flexible number of participants as we plan to use real time collaborative digital tools and breakout groups. Why this session? The field of transformation has offered concepts and frameworks to help practioners to think and act with a transformative lens, shifting the focus from the symptoms to the root causes. But how can these be translated into actionable plans? To navigate this question, this session will present the recent experience ofthe Environment Programme at the Oak Foundation in the design of its new grant-making programme strategy, which is intended to contribute to the transformation of global energy, food and natural security systems. The presentation will be followed by a facilitated discussion to delve deeper into questions such as: How can practioners advocate in their organisations to intentionally support transformative solutions? What does a strategy or programme based on transformation theory look like? What tensions are we likely to be faced with

and how can we navigate them? What do evaluation and learning look like when they are in support of transformation?

Learn more and register [here](#).

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Strengthening the role of justice in transformation governance

Anke Fischer, Sofie Joosse, Linda Varekamp

Justice and social acceptance are often considered important aspects of governance for sustainability transformations. However, a closer look at policy documents that engage with societal-level change towards sustainability suggests that this recognition tends to remain at a rather rhetorical level. What justice means, and who it includes (or excludes), is often unspecified and therefore also poorly operationalised. Even in the context of 'Just Transition' processes, where the label suggests a focus on justice, the underlying understanding of justice is often only implied, and could be seen as rather narrowly focusing on geographically focused economic support of selected industries. At the same time, sociological research and social movement practice highlight the diversity of justice concepts, making the term vulnerable to becoming a 'floating' or even an 'empty' signifier.

In this session, we explore, together with all participants, the ways in which transformation governance – in both research and practice – could engage in more depth with concerns around justice, fairness and social acceptance, at international, national and local levels. The aim of this interactive session is to (i) inspire participants to engage with justice considerations in the context of transformation governance, (ii) gain a broader understanding of different perspectives on justice by sharing ideas and experiences and (iii) identify ways to promote more thorough engagement with justice in transformation governance in different contexts.

This session will be of interest to everyone concerned about fairness, legitimacy, social acceptance and the unequal distribution of opportunities, benefits and costs related to sustainability transformations, regardless of your background.

Learn more and register [here](#).

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Global Challenges in Transformations

Learn more and register for the Q&A [here](#).

- **Lisa Jacobson, Joyeeta Gupta: "A safe and just corridor: The Earth Commission's work on targets and transformations"**

The Earth Commission is a global team of scientists working to identify a safe and just corridor for people and planet. This session is organised by members of the Commission's Transformations Working Group and aims to present its work and invites feedback specifically on the work focused on transformations and integrating

justice in Earth system targets. In the session, we will discuss targets as a means of transformation. We will debate the outcomes of workshops held on defining planetary justice and possible measures and targets for justice, as well as the approach to understanding the levers, actors and pathways for transformation. We will explore some of the challenges in integrating science-based targets and earth system science with justice goals and social science research. We will also introduce the broader Global Commons Alliance, of which the Earth Commission is part. This is an international partnership of organisations in science, philanthropy, business and advocacy, with the ultimate mission to empower citizens, cities, companies and countries to become stewards of our global commons. Joyeeta Gupta (University of Amsterdam) will chair the session and participants will include members of the Transformations working who are able to attend the meeting.

Watch the pre-recorded [presentation](#).

- **Michele-Lee Moore: "Disrupting systems during global disruption: changemaking realities"**

This study explores the implications of COVID-19 on transformative change efforts being undertaken by changemakers across Kenya, Uganda, South Africa, Ghana, Niger, and Nigeria. Using a grounded theory approach, we examine three areas of interplay between crisis and changemaking. Firstly, the relationship between crisis presenting an opportunity for transformative change has been documented, but the impacts of COVID-19 reveal new insights about the various opportunities and risks that can unfold in different contexts during the same potential crisis. Secondly, previous research has highlighted that changemakers attempting to transform systems will face rapidly changing contexts, and unpredictable circumstances. However, a better understanding of what it means to be prepared for the unpredictable is needed; therefore, we explore what and how different initiatives were prepared (or not) for COVID-19. Lastly, we examine the nature of changemaking efforts that were intended to disrupt problematic systems or build alternative systems in the midst of a global disruption. Specifically, we will examine themes of surveillance, institutional capacity, and inequalities in order to grapple with the consequences of COVID-19 for short and longer-term efforts for transformative change.

Watch the pre-recorded [presentation](#).

- **Rachel Kosse: "UNEP's Synthesis Report: Making Peace with Nature: a scientific blueprint to tackle the climate, biodiversity and pollution emergencies"**

The first UNEP synthesis report, "Making Peace with Nature" was launched on Thursday 18 February 2021, in advance of UNEA 5.1 with a joint press conference between the UN Secretary General, António Guterres and UNEP's Executive Director Inger Andersen. The report makes it clear that there is a triple emergency unfolding and that these three issues are interlinked and need to be dealt with together. "These are not just environmental issues, they are economic, development, security, social, moral and ethical issues." - Sir Robert Watson, Report Lead. The blueprint calls for ambitious and coordinated action by governments, businesses and people around the world to prevent and reverse the worst impacts of environmental decline by rapidly transforming key systems including energy, water and food so that our use of the land

and oceans becomes sustainable. It also stresses the need for transforming social and economic systems, improving our relationship with nature, understanding its value and putting that value at the heart of our decision making. The report serves to translate the current state of scientific knowledge into crisp, clear and digestible facts-based messages that the world can relate to and follow up on https://www.unep.org/resources/making-peace-nature.

Watch the pre-recorded presentation.

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Leveraging multiplicity, systemic-design knowledge and realworld Experimentation towards regenerative transformations

Haley Fitzpatrick

A visual discussion where 10-25 transdisciplinary participants harvest practical examples from experiences related to real-world Tools for Change (TfC) principles. Systems-Oriented Design approach through Miro guides participants in how TfCs can be leveraged across scales and contexts to nudge and tip local-people action towards systemic innovation. https://monviso-institute.org/tools-for-change/

Learn more and register here.

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Fostering co-productive agility for transformation

Josie Chambers

Through role plays, visualizations, case examples and breakouts, participants will develop their ideas and skills to foster the willingness and ability of diverse actors to constantly recognize and navigate emerging tensions and opportunities to enable transformation.

Learn more and register here.

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Theories and Perspectives of Transformations

Learn more and register for the Q&A here.

- **Lakin Anderson: "Organising Transformative Science - Establishing a climate research center in Western Norway"**

This study traces the establishment process of a transformative climate research center in Western Norway over a period of 2 years, describing how symbolic and material

resources come together in this process. It shows how along the way, the predominantly social scientist group become 'transformative researchers' through a process of individual and collective identity-work, and how this gives them among other things, a distinctive change-agency and expert identity. At the same time, we see how their research group mediates the policy and institutional pressures and incentives of their environment, which seek to channel this agency. Closer attention to the working life of research centers and groups offers potential insight into sustainability-oriented transformative research emerges and its consequences. (Author note *This is an ongoing PhD project, and I am seeking insight from those into those in the transformations field on how it can be developed theoretically and the findings perhaps be of use in practice)

- **Paulina Aldunce: "Science informing Transformation in practice"**

Transformation is one of the most recent approach to face climate change. In Chile, this approach is emerging strongly, nevertheless there is confusion and questions related to it. The study aimed to explore the knowledge related to Transformation that scientists and decision-makers have. Survey and workshops with scientist, stakeholders and decision-makers were applied. Results showed that there is confusion regarding Transformation, nonetheless, key ideas emerged: 1) Transformation is strongly emerging in the field of climate change; 2) there is an urgency for the implementation of Transformational; 3) Transformation has a central role in social and development issues, for example, to advance in social justice, support the resolution of social and socio-environmental conflicts; 4) Transformation has the potential to preventing natural and social systems collapse. Some confusion regarding Transformation is recognized, therefore is relevant to promote the literacy of it, with special emphasis on its modes of implementation. For government organizations, it is recommended to explicitly include the Transformation approach in decision-making and formal instruments. Transformation gives the opportunity to rethink our society and the changes necessary to build a more just society.

- **Rose Cairns: "Transforming imaginations? Multiple dimensionalities and temporalities in transformations to sustainability"**

This paper examines some key issues around the roles played by 'sociotechnical imaginaries' in the shaping of 'sustainability transformations'. We argue that much contemporary research and practice on sustainability transformations (and the ways these are imagined) is shaped by categories that are too expediently simplistic, making this body of work vulnerable to manipulation and error. In particular many mainstream ways to imagine, enact and research transformation tend to be 'monothetic' (envisaging a necessary set of dimensions), and 'monotonic' (envisaging a single steadily unfolding direction of change). The former can neglect alternative 'polythetic' views (recognising more plurality and fluidity in the dimensions that constitute social processes and actions); while the latter can neglect alternative 'nonmonotonic' processes (which undulate in different directions over time). Drawing on empirical examples from ongoing research on prospective transformations in Kenyan cities and the UK and German energy sectors, we make the case for more polythetic and non-monotonic styles of analysis, to allow the dimensions, categories, relations and temporal dynamics in play to be engaged with and communicated with a requisite degree of rigour and accountability.

- **Maria Elena Freund: "Systematic Literature Review (SLR): Contextual Dependencies in Transdisciplinary Research (single contribution)"**

Transdisciplinarity as a research principle is highly dependent on multiple configurations of context. During the last decades, understanding the complexity of contexts in TD research has been highlighted as key to co-generate socially robust and action-oriented knowledge (Cagnilia et al. 2020). Contexts influence the methodological design of the research, outcomes, and results; not only taking into account individual research contexts, but also the role of the researcher (Lux et al. 2019, Fazey et al. 2018). Yet, a structured perspective on the dimensions of context in TD research is missing. In order to increase a context-sensitive approach that encompasses the consideration of inequalities and value conceptions, we are conducting a SLR, addressing the following research questions: How is context described and characterized? Which strategies are being used to deal with context? We consider acknowledging and challenging power/seeing TD sustainability research through a power perspective (Fritz & Meinherz 2020) as a premise to meet the essential of TD research, especially in regards to facilitating learning processes between case studies and translating research into impactful outcomes – creating spaces for transformations (Lang et al. 2012, Pereira et al. 2020).

- **Bruce Goldstein: "Netweaving as Paradox Thinking in Learning Networks for Transformative Change"**

Netweavers promote place-based learning and systems change in multi-sited learning communities that address critical issues such as reef resiliency, ecological fire restoration, and food security. We share insights that emerged from analysis of a three-year dialogue series organized by the Netweaver Network that addressed network design and facilitation, network evaluation, and strategies for network improvement (see https://www.netweavernetwork.org/netweaver-dialogues). We organize our discussion around netweaving as paradox thinking and management. Paradoxes are contradictions that persist over time, require on-going responses, and are not solvable by compromise or by adopting simultaneous viewpoints. Paradoxes described by the netweavers highlighted core tensions within their networks including stability versus flexibility, inclusivity versus efficiency, and fostering reflective capacity along with the ability to act in the moment to bring about significant and lasting change. We explore how netweavers approached leadership paradoxes by integrating the contradictory poles of each paradoxical tension while maintaining and leveraging differences in ways that nurtured social innovations with the potential to transform.

Watch the pre-recorded presentation.

- **Neha Mungekar: "Towards transformative informality for water sensitive secondary Indian cities"**

The Water Sensitive City (WSC) paradigm aims to address the complexities of water-stressed cities in the Global South. However, the existing governance structures hinder this aim because of gaps and lock-ins, including bureaucratic rigidities, siloed operations, restrictive local institutions, and insufficient human, knowledge, and financial resources. In response to this, diverse local actors self-organized to provide water services modalities. We understand this 'organizing logic' of a water service modality as 'informality'. While informal governance processes and structures can help close gaps in last-mile water service provision, it also translates to inequitable resource distribution with limited accountability. We develop a framework of capacities for 'transformative informality' to mobilize the potential of informality for supporting the transition to water sensitive cities. The framework defines two capacities: consolidative

and 'jugaadu' (tinkering), which guide actors to organize, strategize and develop innovative strategies while navigating through local social norms. We will apply the framework to investigate the capacities, by identifying opportunities, gaps and challenges for mobilizing transformative informality in Bhopal, India.

Watch the pre-recorded presentation.

- **Anita Lazurko: "Unbounding the future: A framework for more reflexive use of scenarios in sustainability science"**

Scenarios are important tools for imagining and governing transformation. Scenario processes influence the present by informing strategic decisions and creating transformative spaces for learning and deliberation. Despite this explicit orientation toward impact, scenario practice has been relatively uncritical of the impact of scenario framing on outcomes. However, sustainability scientists still face numerous practical choices that delimit the range of future conditions discussed and reflected in scenario processes. What is the purpose? Who is involved? Do the scenarios consider top-down or bottom-up change? What epistemological lens underpins the process? These choices – made implicitly and explicitly – reinforce or challenge assumptions about the future in ways that impact transformation. In this paper, I present a novel framework that aims to enable more reflexive use of scenarios in sustainability science in the context of transformative change. The framework characterizes the choices involved in scenario processes as boundary judgements and relates different types of boundary judgements to theories of transformation. The framework will be refined and applied through a meta-analysis of peer-reviewed social-ecological scenario case studies.

Watch the pre-recorded presentation.

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Local Knowledge

Learn more and register for the Q&A here.

- **Geoffrey Nwaka: "Local Knowledge for Environmental Protection and Climate Change Adaptation in Africa: Towards Decolonizing Climate Science"**

Africa should search its own knowledge systems for appropriate ideas and approaches to genuine and sustainable development

- **Vangelis Pitidis: "Dialogical participatory mapping as a method to harness indigenous knowledge for enhancing disaster resilience towards sustainability transformations"**

Detecting novel and innovative ways to adapt to emerging risks and improve disaster resilience is currently one of the major challenges for academics, practitioners and local authorities in the global south, as needs and inherent vulnerabilities of indigenous populations are rarely represented in existing disaster-related datasets. In line with the excitement surrounding 'citizen-generated data' and 'knowledge co-production', we present our dialogical approach for incorporating indigenous knowledge into geospatial

data through dialogical community engagement and collaborative mapping. Drawing upon the critical pedagogical method of Paulo Freire, we propose a reconceptualised participatory approach for community engagement which operates both as an instrumental mode of communication between community members and disaster risk managers and as a critical pedagogical process for local empowerment. Through investigating flood and landslide risk management in marginalised communities in Brazil and Colombia, our key objective is to consolidate a comprehensive methodology for employing digital technologies to extract indigenous knowledge aiming to not only transform existing disaster management mechanisms but also and create pathways to sustainable future through local capacity building.

Watch the pre-recorded presentation.

- **Raíssa Resende de Moraes: "Garimpagem at the arenas of natural resources regimes by the Kayapó (Mebêngôkre) of the subgroups Mekrãgnoti and Metyktire – a perspective of transformations towards sustainability"**

The social arenas that surround indigenous peoples and Artisanal and Small-scale Gold Mining (garimpagem) in the Brazilian Amazon are characterized by controversies and inequalities. The socio-environmental impacts resulting from garimpagem in indigenous lands can generate barriers to sustainability. Therefore, it is central to bring to the light elements that can generate transformations towards sustainability in a context where different actors have divergent perspectives about sustainability. Among all mining activities carried out on indigenous lands, those happening on the Kayapó nation are very emblematic. This study aims at understanding the arenas surround garimpagem and the Kayapó (Mebêngôkre) of the subgroups Mekrãgnoti and Metyktire, through the lens of transformations towards sustainability. The research methods are semi-structured interviews, participatory observation, and secondary data analysis, with a multi-actor and multi-level approach. I conducted two fieldwork in the Tapajós region (Brazilian amazon), in July 2019 and January 2020. Preliminary findings indicate that pathways of transformations towards sustainability could pass through an understanding of the relationships and processes of negotiation and conflict between different actors in these social arenas.

Watch the pre-recorded presentation.

- **Milagros Romero: "Actors' perspectives on the configuration and sustainability of territorial pathways in rural Nicaragua"**

In sustainability debates there is growing attention to culture as an important element in the search for alternatives that could lead to transformational change. People's ideas, beliefs and perceptions shape their different understanding and enactment of social reality, which are then translated into ways of living, actions and aspirations. Grounded in agricultural frontier settings in Nicaragua, this paper analyzes how different actors´ perceptions on social networks, regulations and 'rules in use', and the perceived and desirable state of the physical space, contribute to the configuration and emergence of territorial dynamics. It is based on a territorial development pathways approach, stressing the complex, power-laden and unpredictable nature of change processes. It builds on different stages of participatory reflection sessions and Q method, as part of broader action-research processes in the study region. Results show how there are certain widely shared ideas that explain and reinforce dominant dynamics, although

with different and conflicting problem framings, desirable solutions and approaches to sustainability.

Watch the pre-recorded [presentation](#).

- **Pooja Singh: "Resilience pathway for flood risk management in the Kosi Basin"**

The shift in flood risk management paradigm from flood hazard to flood risk has led to view floods as socio-environmental systems (SESs). For understanding SES, not only do scientific knowledges play a vital role but also local knowledges. In the UK, this paradigm shift begun in the early 1990s. Although there has been a shift in the mind-set in India, there is still a gap in implementing the paradigm shift to the ground level. In this paper, a soft system methodological approach has been proposed to better understand SES in Kosi Basin, India. The major at-risk rural communities identified in the Kosi Basin are the ones living in the waterlogged area, on the west embankment, and within the embankments. On-field data was acquired using participatory modelling and then structured into community SESs using casual loop diagrams. The SESs were diagnosed using a resilience framework which highlighted that these different SES have different system dynamics and a single homogenous resilient pathway cannot be applied to them. The leverage point technique was used to devise a separate resilient pathway for each community. The findings of this work show that a better understanding of SES is a way forward to enable positive transformation by delivering robust and sustainable policies.

Watch the pre-recorded [presentation](#).

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Transforming Worldviews Through System Thinking

Learn more and register for the Q&A [here](#).

- **Christine Daigle, Xin Liu: "Becoming Posthuman – Leaving Anthropocentrism Behind for Better Futures"**

We live in an unprecedented global state of crisis which manifests in the economic, social, medical, and environmental spheres. The humanist anthropocentric worldview that has been driving human development thus far–grounded in a notion of human exceptionalism and radical separation from the nonhuman and nature–is arguably the main driver of these crises. The techno-optimism of this worldview approaches problems as simply in need of techno-fixes developed by more techno-science. Permeated by humanist values, we fail to examine the root cause of our problems: we have lost our connection to other beings and need to transform our vision. Critical posthumanism, and material feminism in particular, provide us with the tools we need for this transformation. This worldview repositions the human where it should always have been: in the web of interconnections with other humans, nonhumans, ecosystems and the Earth system as a whole. A posthuman non-anthropocentric and material feminist take on ourselves and the world offers a view of sustainability that also takes in consideration the well-being and thriving of all species and all life, as opposed to

narrowly thinking of only our own. This is essential to a better future and a better living together.

Watch the pre-recorded presentation.

- **Liette Vasseur: "PACHA: transforming lives of Indigenous communities in the Chimborazo"**

In the Central Ecuadorian Andes, the tropical high mountains or Paramos located above 2,740 m are considered complex, and very fragile ecosystems. They are vulnerable to changes due to land use and climate. With greater unpredictability regarding rainfall, crop production can become difficult despite its needs for Indigenous communities that have few other economic income. At the same time, the Andean Páramo is an ecosystem of vital importance for climate change mitigation as it has the ability to capture carbon and regulate the climate. There is a need for a new transformative approach that can improve resilience and sustainability of these communities. The PACHA approach is based on nature-based solution and has been collaboratively developed to not only assess current conditions but mainly to co-produce solutions that can lead to a new way of life that is more sustainable. The approach is based on system thinking where the integration of all the components of the system allows for a greater participation of all people in the community to codevelop alternatives to current agricultural system while at the same time improve biodiversity and economic activities, considering their traditional knowledge.

Watch the pre-recorded presentation.

- **Charles Conteh: "Rethinking Sustainability in the Discourse and Practice of Land Use Planning"**

Watch the pre-recorded presentation.

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FRIDAY 18TH JUNE

Transformative Technologies and Digitalisation

Learn more and register for the Q&A here.

- **Thomas Chen: "Harnessing Artificial Intelligence to Tackle Climate Change: Computer Vision for Disaster Relief"**

Natural disasters ravage the world's cities, valleys, and shores on a monthly basis. Having precise and efficient mechanisms for assessing infrastructure damage is essential to channel resources and minimize the loss of life. Using a dataset that includes labeled pre- and post- disaster satellite imagery, we train multiple convolutional neural networks to assess building damage on a per-building basis. In order to investigate how to best classify building damage, we present a highly interpretable deep-learning methodology that seeks to explicitly convey the most useful information required to

train an accurate classification model. We also delve into which loss functions best optimize these models. Our findings include that ordinal-cross entropy loss is the most optimal loss function to use and that including the type of disaster that caused the damage in combination with a pre- and post-disaster image best predicts the level of damage caused. Our research seeks to computationally contribute to aiding in this ongoing and growing humanitarian crisis, heightened by climate change. As artificial intelligence becomes increasingly important, its use cases in climate change adaptation should be especially emphasized and deployed in the real world.

Watch the pre-recorded presentation.

- **Zareena Begum Irfan: "Factors Influencing Adoption of Smart Metering and Domestic Water Consumption Preliminary Insights from a Household Survey in Chennai City**

India is in the midst of an impending water crisis and cities are the first to be worst affected by periodic water scarcity. Being the epicenters of economic development, cities across India face several environment and sustainable development challenges of which climate change and water insecurity are increasingly becoming an important policy concern for the government. In this context, the paper explores and discusses the case of smart water metering adopted by the residential communities in Chennai Metropolitan Region as a water conservation measure. Based on primary survey, the paper presents preliminary findings of community perception of water metering adoption and shifting to an efficient pricing mechanism so as to improve water use efficiency. Basic findings from the survey with respect to key factors influencing water metering adoption and consumption are highlighted. The paper examines the opportunities for demand side measures for improving water use efficiency in domestic sector. Basically, the paper discusses the cumulative understanding of the key factors affecting domestic water consumption and the transition to a more sustainable water use through a mix of both economic and technology interventions.

- **Yun Chen: "Digital Transformation from Open Collaboration"**

G0v is a civic tech community in Taiwan that not only builds digital tools but also empower open collaboration to foster systematical changes in civil society and the governments. We will shortly share our experience and observations of how digital tools –such as blog/website, SNS and realtime collaborative docs– reshape the advocacy in sustainability discourse and the paradigm shifts of collaboration models.

#Display: easier to advocate to multistakeholders and general public to be aware of the issues.

#Solidarity: brings birds of a feather together. It is easier to exchange knowledge and make actions together

#Collaboration: Enables advocates to co-work with diverse professionals, to think of a box and to create new models.

In open-source spirit, the workshop design discussion is documented and open for comments here: https://g0v.hackmd.io/L36QWVuLSbaueT_xBCxMbw?both

Watch the pre-recorded presentation.

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Convening Inequality in Just Transition Care Nexus
Isabel Baudish, Stefania Barca, Laila Mendy

Just Transition (JT) is a labor and environmental justice framework to design climate policies from the perspective of those most affected by both environmental and economic inequalities, forming a crucial component of socio-economic transformations. For JT to be Just they must adopt a care centric approach. This requires the convergence of diverse worldviews, histories, narratives and identities. This convergence can be highly complex, challenged by the relatively narrow and outcome-oriented nature of working towards sustainable futures. To explore this complex process, we have been exploring approaches to hosting conversations, focused on the diverse and participatory ways we can listen, learn and lead in times of JT. In this session, we aim to understand different ways in which these sorts of engagements have been approached in the past and how we collectively can take these back to our own activities. We invite participants to share with us their experiences of inclusive conversations, and how that has enabled novel ways of understanding transformations. The conversation will begin with our project experiences convening dialogues between unions, academics and social movement leaders to better understand the politics of care in the JT movement. We will then move into breakout rooms discussing: Convening with inequality in care-full conversations; Acknowledging knowledge hierarchies and sitting with plurality; Co-producing knowledge and action for just and caring transitions

Learn more and register here.

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Tools for transformations: Principles for purposeful systems change
Jessica Cockburn, Johan Holmén, Gavin McCrory, Steve Williams, John Holmberg

Are you grappling with tools and methods for transformation, and would like to have a conversation that digs beneath the practical aspects? In this session, we aim to explore some of the principles, values and philosophies that underpin tools for transformation and what this means not only for WHAT tools are applied, but also HOW they are applied. We invite action-researchers, scholar activists, pracademics and all those who harbour an ambition to engage in transformative change processes in context.

Tools for transformation are not only practical in nature, but implicit within them are various assumptions around power, structure, agency and learning. Moreover, the 'inner world' of those facilitating and leading transformative processes through such tools has a strong influence. As organizers, we are involved in designing, researching and facilitating ongoing change processes. We cross both socio-technical and social-ecological system perspectives, connected to both educational and real-world contexts. Our approaches rest upon an action-oriented understanding of tools for transformation, where binaries between knowledge and action are insufficient for the deeply contingent nature of transformations towards sustainability. We are particularly interested in tools that can be used to deliberately guide and enable change in a purposeful manner. Furthermore, we acknowledge the importance of reflecting on the worldviews, values and principles underpinning these processes.

During this T-Lab session, we aim to create a space for meaningful conversations and exchanges on the principles that underpin tools for transformation. Within this space, we hope to learn from each other, regardless of context or background. Therefore, we will remain inclusive, interactive, and flexible in terms of format. Initially, we will encourage participants (both individually and in groups) to share expectations and experiences related to tools for transformation. This session will build upon the composition of our group and the nature of experiences to enrich our engagement with such tools in future processes. This session provides an opportunity for further exploration of the conversations initiated in our sister session "Tools for transformations: Practical methods for systems change".

Learn more and register here.

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Learning to Transform - Tools and cases 2

Learn more and register for the Q&A here.

- **Nicholas Cradock-Henry: "An interactive and adaptive game for climate change and coastal hazards in New Zealand"**

The impacts and implications of climate change are becoming increasingly clear for coastal communities throughout New Zealand. The adverse effects of climate-related stressors are challenging existing management and decision-making processes, and compounding future uncertainties. In order to support decision making, and ensure long-term sustainability in coastal margins, there is an urgent need for new tools and processes to effectively engage communities, stakeholders and decision makers in adaptation planning. In this presentation, we present a serious game for exploring the impacts of climate change on coastal communities, to support transformational adaptation. Harnessing the powers of visualisation, narrative and role playing we focus on the fictional community of 'Seaview', and demonstrate how stakeholders can experiment with and explore management strategies for reducing risk and realising opportunities. Results show the value and potential of serious games to advance coastal adaptation debates and strengthen connections between knowledge communities such as indigenous and local knowledge holders and researchers and how uptake might foster more informed communities.

Watch the pre-recorded presentation.

- **Nicholas Cradock-Henry: "Extending the parallel scenario process to the local scale: insights and experience from Aotearoa New Zealand"**

Scenarios are used in climate change research to explore potential impacts and identify and assess adaptation options. In developing scenarios, some emulate the parallel scenario framework of representative concentration pathways, shared socio-economic pathways, and shared policy assumptions, refining expert data and projections into relatively complex regional scenarios. Others use participatory approaches to co-create scenarios based on experiential knowledge, risk perception and community aspirations. Here we seek to combine top-down elements from the global scenario architecture

together with locally specific data that bridge a range of social issues including political debates, land use, and socio-economic inequalities. We illustrate the approach through a case study of the West Coast, New Zealand which shows that meaningful climate change scenarios that are credible, legitimate and relevant can be used by local decision makers to open up material discussions. Our methodology provides a robust process, informed by participatory approaches connecting international best practice to local contexts and communicates climate change scenarios through accessible textual and visual boundary objects. Results provide a basis for further process refinement and application elsewhere.

Watch the pre-recorded presentation.

- **Scott Chaplowe: "Evaluating Outside the Box: Evaluation's Transformational Potential"**

The call for transformation is a response to the dire global emergency; it is a call for radical innovation at multiple levels if humanity is to survive into the next Century. How can evaluation, a profession in the business of assessment and advising, inform and hasten transformation? As a field that straddles both theory and practice, evaluation is uniquely positioned to support transformational learning and change, but this potential depends on its ability to transform from within. This article identifies four interrelated "boxes" that confine evaluation's transformational potential: a project fixation, a short-term temporal fixation, a quantitative fixation, and an accountability fixation. It also examines the uptake and influence of complex systems analysis in the field of evaluation as a means to "breakout" of these boxes and nudge evaluation towards the inner transformation required for it to contribute to transformational change.

Watch the pre-recorded presentation.

- **Viola Hakkarainen: "Transdisciplinary research in natural resources management: towards an integrative and transformative use of co-concepts"**

Transdisciplinary research often utilizes collaborative ways of knowledge production to enable intended transformations towards sustainability. Multiple concepts with varying definitions are applied leading to confusion in the aims and uses of these concepts. In this presentation, we share results from a review of five concepts relevant to the current debate on the new collaborative ways of knowledge production in transdisciplinary research. We focus on the concepts of co-creation, co-production, co-design, co-learning, and adaptive co-management in the context of natural resources management (NRM). We propose an integrative understanding of the concepts to facilitate collaborative modes and to enable the transformative aims of research processes. To this end we discuss how to harvest the transformative potential of the "co-concepts" by focusing on process orientation, power analysis, and reflexivity.

Watch the pre-recorded presentation.

- **Beatrice John: "Walking together for the climate: Empowering experiences and capacity building in a small town in Northern Germany"**

Cities are considered particular places of transformation, but urban sustainability solutions are not easily transferred across city scales. Especially, small cities lack resources and expertise to address sustainability challenges in an appropriate way. They

follow their own logic of networking and engaging society and therefore require their own approaches. This case presents insights from Boizenburg/Elbe, a small city in Northern Germany, where a platform has aimed to develop social practices to increase heat resilience. In 2020 a city-wide mental mapping and walking exercise was organized to engage citizens in a context-sensitive and positive way with their environment. To that end, thirteen expeditions guided people by foot, by bike and Stand-Up-Paddles to different locations. At the same time, they were asked to contribute favorite places to an online mapping tool. This format showed an empathic way of engaging with present and future challenges by allowing people to explore and reflect new topics. Applying mapping and walking has since accelerated social practices for climate adaptation in Boizenburg/Elbe. It brought together quiet groups, from different backgrounds in a bottom-up approach. This case report aims to present practical results for other small cities.

Watch the pre-recorded presentation.

- **Anita Lazurko: "Unbounding the future: A framework for more reflexive use of scenarios in sustainability science"**

Scenarios are important tools for imagining and governing transformation. Scenario processes influence the present by informing strategic decisions and creating transformative spaces for learning and deliberation. Despite this explicit orientation toward impact, scenario practice has been relatively uncritical of the impact of scenario framing on outcomes. However, sustainability scientists still face numerous practical choices that delimit the range of future conditions discussed and reflected in scenario processes. What is the purpose? Who is involved? Do the scenarios consider top-down or bottom-up change? What epistemological lens underpins the process? These choices – made implicitly and explicitly – reinforce or challenge assumptions about the future in ways that impact transformation. In this paper, I present a novel framework that aims to enable more reflexive use of scenarios in sustainability science in the context of transformative change. The framework characterizes the choices involved in scenario processes as boundary judgements and relates different types of boundary judgements to theories of transformation. The framework will be refined and applied through a meta-analysis of peer-reviewed social-ecological scenario case studies.

Watch the pre-recorded presentation.

- **Simona Pedde: "Transformations potential in the Shared Socioeconomic Pathways"**

Scenario analysis has emerged as a key tool in studies of climate change mitigation and adaptation. A recent, widely used scenario set consists of five socio-economic scenarios (Shared Socio-economic Pathways or SSPs) and four emission scenarios (Representative Concentration Pathways or RCPs). Whilst mitigation scenarios (the Shared Policy Assumptions, or SPAs) have been developed, describing the actions necessary to match the climate pathway of the RCPs, there is no systematic approach to address whether and how these actions can be enabled. We start from a novel framework to understand society "potential" capacity to achieve a sustainable future, under SSP assumptions. In presenting our learning from several sectoral and regional applications of the SSP framework, we argue that the global SSP framework needs to include a "transformation" axis in its core. The current SSPs need to embed more explicitly how innovation and development trajectories are including societal and sectoral transformations and how

this affects the basic assumptions on population and economic growth of the SSPs. Identifying these societal capacities and transformations that enable the rapid innovation, behavioural change and international co-ordination is essential to develop transformative pathways.

Watch the pre-recorded presentation.

- **Kateryna Pereverza: "How to enable collaborative reflexive learning in remote education for sustainability"**

Transformations towards sustainability would require capabilities on different levels (individuals, groups and organisations) to build upon the diversity of perspectives and problem framings, engagement in cross-silo collaborations, and reflexivity to continuously learn from practice. Over the last year, the need to learn and collaborate remotely added to the challenge of developing these capabilities. Universities are places for tipping interventions with great potential to enable the next generations of practitioners to be better equipped for bringing positive changes in society. Our contribution presents the experimental design of a university course with focus on collaborative and reflexive learning among a diverse group of students. We will use timeline mapping to present our approach, and facilitation techniques and exercises we developed within the course "Transdisciplinary approaches for system innovations'' in KTH Royal Institute of Technology. In our approach to the course design, we aimed at a balance between guiding and enabling creativity among students so they can develop their own approaches for structuring, visualising and organising their thoughts and findings. We used a responsive design based on various feedback mechanisms during the course.

Watch the pre-recorded presentation.

- **Daniela Peukert: "Facing challenges of collaboration with design prototyping"**

This article explores the application of design prototyping as a creative method to support collaborative pro-cesses within transformative sustainability research and to meet the challenges they pose. By drawing on discourses on integration, mutual learning and co-production, we identified six different interrelated challenges, concerning (1) diversity, (2) communication, (3) power, (4) epistemology, (5) personal and team, and (6) focus. We applied design prototyping in four workshops that pertained to different phases of a transdisciplinary research process and represented typical collaborative research activities. Our analysis illustrates how design prototyping contributes to addressing the challenges of collaboration, thereby expanding the methodological canon of transformative research. In particular, it helps to create conditions for future-oriented transformations and their prerequisites, such as trust, common understanding and appreciation of the other. Consequently, we argue that design prototyping can be used to facilitate knowledge integration and collaboration between the variety of actors involved in transformative processes towards sustainable futures.

Watch the pre-recorded presentation.

- **Shubhechchha Sharma: "Using Systems Modeling to Identify Leverage Points in Dryland Food Systems"**

Transformation in dryland food systems is required as the severity of drought and other disturbances are expected to rapidly increase and current adaptive strategies have reached their limits. A method for exploring food system leverage points from a stressed state (food insecurity) to a desirable state (food security) is by modeling structure through scenario development. Using Naitolia, a village in Northern Tanzania, as a case study, the goal of this ongoing study is to use system tools such as System Dynamics Modeling (SDM) for scenario planning to identify places in the system that can lead to transformation-i.e., leverage points. Due to COVID-19 travel restrictions, in-depth interviews were conducted remotely with experts familiar with the system and particularly drought and food security in this context. The interviews and in-depth literature review informed the construction of an SDM. The SDM and its results will create policy-relevant outcomes - by identifying feedbacks and thresholds that can inform management of food systems by communities and Tanzanian policymakers.

- **Ying-Syuan (Elaine) Huang: "Beyond indicators and success stories: An emerging method to assess social learning in large-scale climate adaptation programs"**

Facilitated learning approaches are increasingly being used as a means to enhance climate and sustainability collaborations working across disciplines, regions, and scales. With investments into supporting inter- and transdisciplinary learning in major programs on climate and development research on the rise, scholars and practitioners are calling for a more grounded and empirical understanding of learning processes – such as social learning – and their outcomes (e.g. Ensor and Harvey 2015). Yet, methodologies for studying the interplay between learning and transformative change in these initiatives remain scarce, owing to both the 'hard to measure' nature of learning and the complexity of large-scale program implementation and evaluation. In this presentation we will focus on the method that we used for studying social learning in large-scale programs, assessing its contributions to the resilience of the natural and social systems that these programs seek to influence. Building on theories of systems change, our approach seeks to explicit in distinguishing between isolated change 'events' (meetings, trainings, etc.) and evolutions in deeper patterns, systems structure and mental models that emerge from social learning processes (Senge 1990). A case example will also be shared.

Watch the pre-recorded presentation.

- **Kimberley Slater: "Evaluation Results of BetterHomeTO: How an Urban Low Carbon Transitions Experiment is Steering the Conversation on Residential Energy Performance in Canada"**

The prominence of cities in addressing pressing societal challenges like climate change and contributing to sustainability transformations requires evaluative approaches that not only assess their progress in advancing key climate initiatives such as improving residential energy performance, but also foster social learning; shared learning and collective action at multiple scales. This paper shares the evaluation results of co-developing and applying a social learning-focused evaluation framework to a two year, residential energy efficiency program called BetterHomesTO, led by the City of Toronto. The results show evaluation of this kind can surface fundamental assumptions and reveal the misalignment between activities and desired outcomes. Flexibility and openness to learning resulted in a recalibration of both the program and the evaluation

framework, and a shift in perspective from creating change to steering change within larger transformative process related to residential energy efficiency.

Watch the pre-recorded [presentation](#).

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Approaches for integrating diverse knowledge systems in urban transformation
Gina Ziervogel

Transformations towards sustainable cities are urgent, but also an increasingly daunting task as the prevalence of inequality and environmental injustices in urban social-ecological systems become more apparent. Insufficient attention has been paid to listening to and integrating the different perspectives of those urban dwellers who have the most grounded understanding of day-to-day life and of the complex workings formal and informal processes in their city. Tools and methodologies that can capture and integrate diverse types of knowledge into urban management can therefore play a critical role in enabling transformations. This session will draw on different projects that have implemented transdisciplinary approaches to co-create knowledge about urban environmental issues and the challenges and lessons learned.

Example of projects that will share their experience include:

- A water governance project in Cape Town using Sense Maker methodology where community activists and researchers collaborated to design a study that could amplify the voices of residents in low-income and informal settlements around water service issues.

- Transforming southern African cities in a changing climate (part of the LIRA2030 programme) aimed to generate knowledge on transformative responses to climate risks in southern African cities through transdisciplinary research with stakeholders living and working in Durban and Harare.

- Co- designing energy communities with energy poor women in urban areas in Kenya, Uganda, and South Africa (part of the LIRA2030) aimed at providing a scientific backing for integrated energy technology solutions and policy implementation in support of the national energy goals in Kenya, Uganda, and South Africa through a transdisciplinary engagement approach.

Learn more and register [here](#).

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Transformation As Praxis: Responding To Climate Change Uncertainties In Marginal Environments In South Asia
Hans Adam, Lyla Mehta, Upasona Ghosh, Mahmuda Akter, D Parthasarathy, Synne Movik

In this session we present and open for debate experiences and challenges (methodological and conceptual) from carrying out project research on transformation from 'below' in marginal environments in South Asia marked by high levels of

climate-related uncertainties and where transformative changes are being assembled and co-produced on the ground by hybrid and transformative alliances.

Learn more and register [here](#).

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Sensuous Re-storying: Re-sensitizing the Tales We Tell for Transformations
Anke de Vrieze

The ability to craft narratives that invite expanded spheres of empathy and seeing with fresh eyes (and ears, nose, touch, taste) can be a powerful tool for supporting transformation. In this session, we re-write participants' narratives of specific projects, weaving in multi-sensorial information, diverse & more-than human perspectives, and deep time.

Learn more and register [here](#).

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Creative and arts-based methods for sustainability transformations - lessons from the field

- **Angela Moriggi: "Transforming modes of knowledge production using creative and arts-based methods"**

How can we re-imagine possibilities for just and ecological societies? And while doing so, how can we transform the ways in which we produce knowledge as action-researchers, practitioners, and community activists? Inspired by these questions, this presentation introduces the potential of creative methods to cultivate transformative cultures of sustainability. It focuses on the co-creative project Re.imaginary, a 'spin-off' developed over the course of the EU Marie Curie Innovative Training Network 'SUSPLACE'. Re.imaginary is an open-access database of innovative methods and resources, and an attempt to support the collective intelligence of individuals and organizations who find wisdom, pleasure, and impact in the use of creative techniques. This presentation describes three potential outcomes of creative methods: 1) inclusive and generative collaboration 2) holistic and integrated ways of knowing and learning; 3) fresh perspectives and alternative future visions. Examples of specific methods and their application are based on four years of experimentation with entrepreneurs, students, practitioners, artists, and citizens. It will conclude with a reflection on current challenges and future prospects on the use of creative methods to advance the field of sustainability science.

Learn more and register for the Q&A [here](#).

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Plural Knowledges for Transformations
Learn more and register for the Q&A [here](#).

- **Karina Benessaiah: "Scaling processes: Let's focus on dynamic opportunity contexts to understand sustainability transformations"**

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How can we achieve sustainability transformations when faced with cumulative social and ecological crises (e.g. climate change, environmental degradation, economic crises and the Covid-19 pandemic)? Many solutions are already embedded in small sustainability initiatives that innovate every day to provide place-specific responses to people's challenges. The very disparate nature of these initiatives, characterized by diverse ideas, practices and strategies, requires a deeper investigation into how place-specific sustainable social-ecological transformations emerge and scale up, and what futures are created. This research argues that to understand scaling processes, we need to step back from a focus on singular initiatives to look at the ecosystem they are a part of. This means focusing on understanding how these sustainability initiatives relate to dynamic opportunity contexts, which in turn drive their visions and actions. Yet, too often sustainability transformations are examined in isolation, failing to capture emergent dynamics resulting from their interplay with other agents and drivers. This paper presents a framework linking scaling processes of sustainability initiatives to changing opportunity contexts using examples from case-studies in Greece and Canada.

Watch the pre-recorded presentation.

- **Guido Caniglia: "Action-oriented knowledge for sustainability between pluralism and integration"**

Numerous action-oriented approaches in sustainability research) have developed methods to generate knowledge that can be used to inform actions for sustainability. However, the filed still needs systematic approaches for mobilizing knowledge in support of interventions that may bring about transformative change. In this talk, we build upon philosophical considerations about the relationship of knowledge and action as well as upon insights from literature in action-oriented sustainability research. We argue that, in order to provide a sound characterization of action-oriented knowledge for sustainability, it is first important to make clarity about basic characteristics of sustainability actions. We define such actions as courses of events characterized by three dimensions: (a) intentional design for transformational change, (b) collective agency of different actors, and (c) contextual realization. We contend that action-oriented knowledge for sustainability emerges when working in integrated ways with the many kinds of knowledge involved in these three dimensions. The pluralistic and integrated approach we present rejects technocratic solutions to complex sustainability challenges and foregrounds individual and social learning.

Watch the pre-recorded presentation.

- **Irmelin Gram-Hanssen: "Individual and collective leadership for deliberate transformations: Insights from Indigenous leadership"**

Deliberately transforming society toward equitable and sustainable futures requires leadership. But what kind of leadership? While leadership research is increasingly focusing on the concept of collective leadership, the relationship between individuals and collectives in leading change remains elusive and has been given limited attention in the transformations literature. In this presentation, I explore how leadership is understood and enacted in an Alaska Native community engaged in transforming community systems toward enhanced sustainability. Drawing on community member narratives and Indigenous leadership research, I conceptualize leadership in the community as something simultaneously individual and collective and argue that an Indigenous relational ontology makes it possible to imagine transformational leadership

as an "individual-collective simultaneity." I highlight the connections to emerging theories within "mainstream" leadership research, pointing to the potential for bridging disciplines and paradigms. For transformations researchers to engage in this bridging work, we must reflect on and reconsider our assumptions as to what agency for transformation is, with important implications for how we work to support transformations.

Watch the pre-recorded [presentation](#).

- **Stephen Woroniecki: "Tracing the lived experience of transformation through climate-induced loss and damage"**

The majority of transformation research focusses on the practical dimensions of deliberate transformations. Comparatively less work has been dedicated to the personal and political dimensions of transformation, and especially how these may interact to produce surprising results. Here explore these linkages in the context of undesirable and unintended transformations. We draw from recent research on transformative experiences, and highlight the value of understanding unintended transformative experiences to transformation research more generally. Using feminist phenomenology as a lens, we extend the notion of a transformative experience to cover the actually-existing challenges familiar to sustainability science as they play out in people's lives. We discuss how an unintended transformative experience may shed light on previously neglected aspects of transformation as process. This we argue is important especially because many if not most transformations are not deterministic movements from A to B, but rather emerge from the politically-charged interactions between actors enmeshed within complex socio-ecological configurations. We demonstrate the practical relevance of this work with examples of climate-induced Loss and Damage.

Watch the pre-recorded [presentation](#).

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Arts and creative practices

Learn more and register for the Q&A [here](#).

- **Cristina Ampatzidou: "Mapping instances of Co-evolution in the Commonspoly game actor network"**

Contemporary creative practices take place within complex ecosystems comprising multiple actors such as funding agencies, academic and/or industry partners, cultural mediators, policy makers and media. This makes pinpointing the precise contribution of transformative creative practices towards socio-ecological sustainability an almost impossible task. In this report we will present the case of Commonspoly, a non-profit, open-source board game initiated by the Spanish cultural cooperative ZEMOS98, designed to stimulate a collaborative, commons-based approach to the use of public resources. The game is available both as purchasable hard copy and a freely downloadable digital format. It has been played at multiple festivals and cultural events and a number of institutions have supported its production or hosted gameplays. We will first describe the relationships and interactions of ZEMOS98 with diverse actors in their network that emerge and evolve while designing, developing and promoting Commonspoly. We will then use the concept of co-evolution to discuss how, through interdependencies and mutual adaptation, these relationships have contributed to the

transformation of the game, ZEMOS98, and the emerging community of practice formed around the topic of the commons.

Watch the pre-recorded [presentation](#).

- **Daniela Peukert: "Facing challenges of collaboration with design prototyping"**

This article explores the application of design prototyping as a creative method to support collaborative processes within transformative sustainability research and to meet the challenges they pose. By drawing on discourses on integration, mutual learning and co-production, we identified six different interrelated challenges, concerning (1) diversity, (2) communication, (3) power, (4) epistemology, (5) personal and team, and (6) focus. We applied design prototyping in four workshops that pertained to different phases of a transdisciplinary research process and represented typical collaborative research activities. Our analysis illustrates how design prototyping contributes to addressing the challenges of collaboration, thereby expanding the methodological canon of transformative research. In particular, it helps to create conditions for future-oriented transformations and their prerequisites, such as trust, common understanding and appreciation of the other. Consequently, we argue that design prototyping can be used to facilitate knowledge integration and collaboration between the variety of actors involved in transformative processes towards sustainable futures.

- **Stephen Williams: "Transformational Techno: Explorations in art, politics, sustainability, and transformation"**

There have been many calls for the arts to be a bigger part of societal transformation but what does that look like? This session presents an integration of Berlin techno culture and innovative sustainability thinking. The live performance by drusnoise (soundcloud.com/drusnoise) combines analog synthesizers and drum machines with digital sounds and samples of global sustainability theorists including Bruno Latour (France), Patrizia Nanz (Germany), John Robinson (Canada), and Xuemei Bai (Australia). The performance explores the connection between arts and sustainability through inclusion of lectures by these scholars and the relationship between word and sound. The interplay between analog instruments with their unpredictability and digital sounds with their perfect sound reproduction mirrors the relationship between emergent sustainability transformation and technocratic control systems. The piece also sparks conversation on possible roles of the arts in transformation: as a marketing tool for scientists? as a way to engage with feeling instead of intellect? as a way to embed sustainability into the broader cultural landscape? Or simply to dance? This contribution provides space for exploring these questions supported by a musical foundation.

Watch the pre-recorded [presentation](#).

- **Marta Nieto Romero: "Turning Sustainability Research into Fairytale Gold – Once Upon the Future, Everyday Adventures that Change the World"**

Interested in stories that spark hope for the future? That combine leading-edge research in sustainability with magic, adventure, and humor? That empower kids (and adults too) to make a difference in their communities? Welcome to Once Upon the Future, where everyday adventures can change the world. In this audio/visual presentation, we share both the journey and the result of writing an illustrated anthology of middle grade fiction stories, through storytelling and animation. Once Upon the Future was born from

a world rife with jargon and heavy with problems that often appear intractable and feel overwhelming. Welcome to sustainability science! In the context of an EU funded research project about place-based sustainability transformations, a group of six sustainability scientists decided to distill some of their key insights into stories for children, engaging in a kind of creative alchemy. The stories include themes related to circular food economies, rural development and cultural textile traditions, forest commoning practices, biodiversity conservation and regeneration, youth in urban governance, and the importance of values and imagination for sustainability leadership and transformations.

Watch the pre-recorded presentation.

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"Gold Matters" – A virtual exhibition on transformations to sustainability in small-scale gold mining

Eleanor Fisher

The T-Lab will show case an exhibition that examines the potential for transformations to sustainability in small-scale gold mining. It draws on collaboration between researchers, the painter Christophe Sawadogo, photographer Nii Obodai Provençal, and African small-scale miners. We expect 50-60 participants with interest on gold mining and transformations to sustainability.

Learn more and register here.

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Just Transitions: From sectoral to Systemic Transformations

Laia Segura Cueto, Jeremie Fosse, Elif Gunduzyeli, Isabelle Brachet, Katie Treadwell

The Just Transition is a well-recognised concept, hailed as a means of reconciling the climate and environmental policies with achieving social goals. However, current understanding of the concept struggles to apply to all situations and questions about the transition. In Europe, viewing social and environmental goals as interdependent, they have been redefining the concept as a means to achieve socially, economically and environmentally resilient societies. In this vision, a series of just transitions across society, from the local and sectoral level and up, will together deliver the systemic transformation needed to act on climate change and deliver a fairer, resilient world for all. We will present this vision for just transitions to deliver true social and environmental justice across society, building first on European examples, before bringing in voices from other regions to further shape and influence the perception of just transition towards the framing of many just transitions that can lead to a just transformation of society as a whole. We aim to improve the framework developed based on the European experience in order to evolve it into a truly global concept. The format of the session will be a presentation followed by a panel discussion. We will present the concept, focusing on the lessons learned from Europe on governing just transitions for a just transformation of society, before opening up for experiences and views on the outlined approach from non-Europeans.

Learn more and register [here](#).

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Positive Tipping Points - Theory and Methods 1

Learn more and register for the Q&A [here](#).

- **Andra-Ioana Horcea-Milcu: "Values as deep leverage points for sustainability transformation: two theories of change"**

The burgeoning literature on sustainability transformation and transitions agrees that values play a key, albeit unelucidated, role on the transformation agenda. Concurrently, there is a vivid debate whether values can and should be shifted for the sake of sustainability. However, how to deliberately and ethically engage with values as leverage points remains a critical knowledge gap. Following a review of latest evidence, we identify two theories of change to unleash the transformative potential of values. We clarify that interventions (levers) targeting values heavily rely on the stance taken on the relationship between science/society, and between production/governance of research (Mode-1, Mode-2 science). An often-untapped mode-2 enables numerous theoretical traditions, e.g. cognitive sciences, systems thinking, to inform solution-options for sustainability. For example, according to mode-1 values could be considered a mere predictor of human behaviour. According to mode-2 values are a part of the transformation model, both in terms of process and outcome.

Watch the pre-recorded [presentation](#).

- **Per Olsson: "Systems entrepreneurship for transformations to sustainability: agency beyond leverage and tipping points"**

Distributed agency and the concept of systems entrepreneurship has been used to analyze different roles that individuals and organizations can play in transformations to sustainability. This builds on previous research on transformative agency that argued that agents of change that work across scales are needed for whole systems change. The concept of leverage points has been studied in systems thinking, social-ecological systems, and socio-technological systems research, and aims to understand the initial attempts or "targets" for change and how agents can build momentum and associated capacities. However, much of this research has neglected which capacities will be necessary once that lever has been pulled, and a system reaches a tipping point and starts to rapidly move. In this paper we use insights from empirical case studies to show how a framework that considers different phases of transformations (previously established as preparing the system for change, navigating the transition, and consolidating the new system) can help us understand agency and more specifically the capacities needed beyond leverage and tipping points. This is especially relevant for developing transformative responses to shocks and crisis, such as the current Covid-19 pandemic.

Watch the pre-recorded [presentation](#).

- **Esther Turnhout: "Transforming science for sustainability transformations: a review of current approaches to transforming science, policy and society"**

In sustainability science, a growing body of literature focuses on transformative change for sustainability. Contributions in this field have identified mechanisms, levers and leverage points for transformation, but often without explicit discussion of the diverse and contested interpretations of transformative change and the structural barriers that exist. This scholarship on sustainability transformations has been accompanied by an equally growing body of literature that addresses the role of knowledge in transformative change. Contributions in this field have pointed to the importance of participation and of including diverse knowledge systems, captured by terms such as co-production and transdisciplinarity. In striking parallel, this scholarship on transforming science has generally not explicitly discussed the diverse and contested interpretations of what transforming science should entail and what factors obstruct change. This paper discusses the similarities, differences, and connections between these two bodies of literature in how they conceive and discuss transformative change. We identify common problematic underlying assumptions and gaps and we propose ways forward to transform science to better contribute to understanding and fostering sustainability transformations.

Watch the pre-recorded [presentation](#).

- **J. David Tabara: "Towards transformative emergence. Assessing and enacting social-ecological tipping points in regional sustainability transformations."**

Accelerating global decarbonisation requires fast learning on how to enact positive tipping points toward sustainable development in those regions in the world currently most intensive in the use of fossil fuels. However, there are many difficulties to this transdisciplinary endeavour. In complex social-ecological systems sustainability transformations cannot be fully controlled or anticipated, but the conditions for their emergence can be created. To help overcome many disciplinary limitations confronted by attempts promoting regional sustainability change – of ontological, epistemological and normative nature-, we underline the relevance of the boundary concept of positive Social-Ecological Tipping Points (SETPs). We define positive SETPs as the moments in which, due to deliberate and targeted interventions, a social-ecological systems flips toward a sustainable trajectory or basin of attraction thanks to the building of previous transformative conditions and capacities for systemic change. Our review shows five key research and policy challenges for the robust conceptualisation and policy use of SETPs: (a) integrate theoretical and empirical contributions from social sciences with complexity theory and place-based approaches (b) represent the complex dynamics derived from targeted interventions in multiple scales regarding time, space and social-ecological action (c) and assess different qualities of deep structural change occurring in many different kinds of systems, which are not necessarily or immediately connected and (d) design open, plural and transdisciplinary approaches to carry out these assessments, given that complex systems can only be described and assessed partially by one single perspective. Hence, we advocate for moving away from linear or control ideas of causality in regional transitions towards understanding how to enact the complex conditions for the emergence of sustainability transformations, or transformative emergence, in the first instance.

Watch the pre-recorded [presentation](#).

- **Amanda Martínez Reyes: "Understanding regional energy transformations from an energy justice perspective"**

Energy justice offers a framework to explore injustices, where they are present, who experiences them, and what processes may prevent and amend them (Jenkins et al. 2020). In the literature, these three aspects are referred to as distributional, recognition, and procedural justice, respectively. These must be acknowledged when studying socio-energy change. In my research, I investigate which sections of society are ignored or misrepresented (e.g., women, low-income communities, the youth, etc.) and secondly, include their voices in the formulation of alternative futures. Understanding change requires a regional-level approach. There is a mismatch between climate mitigation pathways followed by (inter)national administrative institutes, nations, and individuals. Typically, energy sectors are assessed at the national level with macro-models, whereas local studies focus on the governance of transitions. Furthermore, carbon-dependent economies struggle to meet EU climate change goals despite the enactment of national policies (Amundsen et al. 2018). We need a subnational focus such as a regional level that bridges the gap between the initiatives of individuals, communities, nations, and supranational levels (Balta-Ozkan, Watson, and Mocca 2015). To make climate mitigation efforts across scales more cohesive, decision-makers need to consider the local perspectives at the 'regional level'. My research project takes a regional energy approach in a cross-case study analysis.

Watch the pre-recorded presentation.

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Climate Governance Transformations

Learn more and register for the Q&A here.

- **Indushree Banerjee: "Increasing survival chances during disasters with a self-organising and sustainable smartphone network"**

There are no natural disasters: When human establishments are in areas prone to natural events such as cyclones, these natural events become disasters. By 2050 it is estimated that 2.5 billion people will live in urban areas. The increased vulnerability of these urban areas to disasters is alarming. The frequency and severity of disasters is on the rise, while the economic disparity of people living in urban settings is increasing. When systems such as emergency communication applications are developed, it is important to acknowledge this inequality and ensure solutions are sustainable and accessible without any bias. We developed a self-organized smartphone network that is sustainable and provides fair access to communication*. Our smartphone network is a bottom-up solution that empowers communities in the first 72 hours after a disaster. Reliable communication is essential for self-organized rescue. In our audio-visual essay, we will explain how we designed a fair communication system that works with leftover technology and enables collective sharing of energy resources when most needed, providing the basis for a truly socio-technical participatory system. *https://www.nature.com/articles/s41598-021-86635-y

Watch the pre-recorded presentation.

- **Gabriel Giordano: "The role of civil society in water governance and environmental education: reflections towards sustainability from a case study in Laguna del Sauce, Uruguay"**

We live in times of environmental crises which will aggravate in the short and medium term. Two fields that can strengthen resilience and transformations towards sustainability are Environmental Education (EE) and Water Governance (WG). Here we describe and reflect upon a case study on EE and WG with civil society organizations of the basin of Laguna del Sauce lake, an important source of drinking water in Uruguay, which suffers from diffuse pollution and other threats. The objective of the work was to strengthen EE and the participation of civil society in the WG. From October to December 2020, we facilitated four workshops with around 15 participants. We used techniques to co-create knowledge, including topics such as the local needs, purposes, experiences and priorities of EE, networks and relations between actors, WG and participation, collective strategies on EE and WG, and processes of planification and implementation. As a main outcome, a network of local civil society organizations was formed. New relations between civil society organizations were formed and existing relations were strengthened. We discuss how the network formed and the collective process which took place can contribute to catalyzing the transformation of the territory towards and beyond sustainability.

Watch the pre-recorded presentation.

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Transformation and Stewardship: Strange bedfellows or complementary concepts?

Vanessa Masterson, Andrea Downing

In sustainability science and policy the concepts of 'stewardship' and 'transformation' have both guided significant discussions about the normative goals of sustainability and multiple pathways to solving challenges of the Anthropocene. We here broadly frame stewardship as a focus on the knowledge, care and agency underlying the pursuit of just pathways for sustainability. However, explicit connections between stewardship and transformation are yet to be explored in detail. Stewardship and transformation are often presented in distinct and separate bodies of literature; and have only occasionally been used together where e.g. transformation processes are a means towards planetary stewardship; or stewardship processes are seen as drivers of sustainability transformations. In this session we examine the different ways in which stewardship and transformation have both been treated - as both processes, and outcomes - and ask how can the two concepts meaningfully be brought into dialogue with each other? In which situations might stewardship processes support a transformation – and vice versa? As a premise for this discussion, we argue that as complementary concepts, transformation and stewardship have the potential to better meet the challenges of sustainability by: providing a better understanding of sustainability from diverse knowledge systems; by explicitly addressing the power-structures characteristic of unsustainability; and by exploring means of scaling local transformations to the global, without homogenising approaches. We here ask, how is this potential best met – how can the concepts be bridged to support just transformations to sustainable and equitable futures?

Session design (1,5 hours):

- Opening remarks (20 mins): Carl Folke (Stockholm Resilience Centre) & organizers

- Breakout groups of 5 to share ideas (45 mins): How can the concepts of stewardship and transformation enhance each other's practice and research arenas?
- Report back on digital postcards: In 2050 – we reflect on how our local communities, regions, countries and world achieved its transitions to sustainability (for whom, by whom, how?) – in a postcard to the earthlings who went to live on Mars in 2022 and are struggling with unsustainability; including a poem, or sketch. Creativity required, humour permitted (15 mins)
- Reflections on the process and insights - Katrina Brown (Exeter University) (10 mins)

Learn more and register here.

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Boundary Objects in Transdisciplinary Transformations Research

Dr. Lily House-Peters, Dr. Martin Garcia Cartagena, Gabriela Alonso-Yanez

This Practice session focuses on the topic of knowledge synthesis for effective transdisciplinary collaborations engaged in sustainability action research. Research on transdisciplinarity suggests that teams must engage in learning practices that foster common frameworks to achieve deep levels of knowledge synthesis. Transdisciplinary learning potentially leads to measurable, high-impact, real-world transformations towards improved outcomes for sustainability policy implementation in local social-ecological systems (SES). We propose using boundary objects (BOs) as a learning tool that enables knowledge integration and supports communication and collaboration among team members in disciplinary diverse and geographically dispersed teams. Briefly, BOs are representations—diagrams, artifacts, keywords—that help individuals collaborate effectively across different disciplines, knowledge backgrounds or technological affiliations. This interactive session will invite participants to reflect on their professional experiences and disciplinary associations and rethink collective learning strategies facilitated by identifying and unravelling boundary objects relevant to sustainability research and practice. We expect a diverse audience, including practitioners, policymakers, academics, and graduate students from various fields and backgrounds.

Learn more and register here.

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Tales of Uncertainty, Resilience and Transformation Through Visual Stories and Narratives

Hans Adam, Shilpi Srivastava, Upasona Ghosh, Anindita Saha, Shibaji Bose

We focus how participatory story telling, through visual methods, facilitates an engaged process of building knowledge from below by sketching issues of vivencia representing CC, uncertainty, transformative actions in South Asia. The participants discuss potential, limitations and scope for co-creation of knowledge.

Learn more and register [here](#).

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Positive Tipping Points - Theory and Methods 2

Learn more and register for the Q&A [here](#).

- **Elisabeth Eppinger: "Intellectual Property Right Models in Sustainable Businesses"**

Transitions to sustainability are multilevel-stakeholder processes that change and disrupt current production and consumption patterns towards a status where the needs of future generations are not compromised. Innovations are key elements in these processes to disrupt and change modes of production and consumption, so they create lower negative and maximize positive impact. Intellectual property such as knowledge and intellectual property rights (IPR) such as patents and copyright are core components for incentivizing innovation. Accordingly, IP models – how to utilize IP – affect sustainability transitions. Open IP models (e.g. open source software, open access) can facilitate knowledge sharing and technology transfer, enable market entrants, and nurture niches on sustainable innovations. On the other hand, also closed IP models (e.g. internal use of IP), can spur innovation and diffusion by turning intangible assets into tradeable goods and attracting investments. We present a framework for better understanding these complex interactions of IP models and sustainability transitions, as well as insights into conditions that influence the choice of appropriate IP models and maximize their impact on sustainability transitions based on a set of in-depth case studies.

Watch the pre-recorded [presentation](#).

- **Tobias Luthe: "Nudging systemic innovation by amplifying synergistic leverage hubs across governance scales through real-world experimentation"**

The UN Decade for Action on Sustainable Development mobilizes for embedding the needed transformations in local practice. The complexity in enabling place-based systemic innovation requires a new set of hybrid methods, since science is limited for cooperative regeneration in the real world. We present scalable Tools for Change (TfC) for enabling local people action through the interplay of science and design in real-world laboratories (RWL), tapping into different types of knowledge through mutual forms of learning, cooperation and co-design. RWL with their solution- and transformation-oriented research by design have a strong local to regional science-society interface. We present various TfC and discuss how they support the synergistic activation of different leverage hubs across governance scales. The focus is on the amplifying momentum created when leverage is synergistically activated, often required to gain sufficient momentum for stepping beyond positive tipping points. We present examples of positive transformations, including individual mindsets and larger community systems. This correlates with a worldview of weaving various TfC and their corresponding seeds of systemic innovation along narratives of transformative resilience and regenerative design.

Watch the pre-recorded [presentation](#).

- **Norman Kearney: "Modelling sustainability transformations using Cross-Impact Balances"**

Sustainability transformations are intentional processes of change aimed at rapidly producing and preserving new societal structures that foster human needs and conserve non-human nature. In this paper, we demonstrate how Cross-Impact Balances (CIB) may be used to model sustainability transformations. CIB was developed for identifying and assessing internally consistent scenarios but is also capable of analyzing pathways. We use CIB in a novel way to identify leverage points for sustainability transformations and to model the evolution of societal structures. We regard societal structures as societal cultures, where culture is socially transmitted information capable of influencing behaviour. Societal cultures consist of interdependent sets of worldviews, institutions, and technologies, which co-evolve and interact with their social and ecological environments. We use CIB to: (1) identify and assess self-reinforcing societal cultures; (2) assess the resilience of such cultures to perturbations from the social and ecological environments; (3) identify and assess context-specific leverage points for transforming self-reinforcing societal cultures; and (4) trace the evolution of unstable societal cultures.

Watch the pre-recorded presentation.

- **Per Olsson: "Telecoupled transformations: Effects of transitions to carbon-neutral societies on low- and middle-income countries"**

In a hyperconnected world transformations are connected across the globe, with the result that positive changes in one part of the world can have negative consequences elsewhere. This phenomenon is broadly referred to as environmental problem shifting and the way that issues can be connected, often in ways that are not highly visible, is known as telecoupling or teleconnected vulnerabilities. Informed by various sectors and their respective climate change solutions, this study seeks to understand the unexpected and unintended telecoupled consequences of global transition efforts to carbon neutrality in low- and middle-income countries. The study also aims to identify knowledge gaps about such outcomes. In particular, we bring attention to two major dimensions: 1) the impacts of transition efforts on the social priorities embedded in the concept of "leave no one behind", including human rights, democracy, equality, justice and poverty, and 2) the broader ecological dimensions linked to climate change. We aim to provide recommendations to governments and companies who want to contribute to achieving the SDGs and navigating the transformations to more sustainable and equitable futures.

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Growing Roots of Sustainability in SMEs: Equipping SMEs to Lead as we 'Build Back Better'

Ninomiya Morton

We'll lead a 40-participant collaborative mapping exercise with online whiteboard software, creating a map of roots that build SME capacity as transformative agents. We'll discuss how SME pandemic pivots have generated innovative business models; and how rapid changes promote knowledge exchange across epistemologies & grow deeper roots of transformation based on new values, visions & principles.

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The climate can wait no longer, and nor can we: urgent knowledge co-production for transformative climate action

Norman Kearney

The events of the past year have reminded us that we are capable of rapidly transforming our societies in response to crisis. With climate change, the challenge that we face is to transform our societies proactively and avoid crisis. The latest IPCC synthesis report leaves no room for doubt: the incremental approach to reducing GHG emissions has failed. The IPCC projects that present efforts to reduce GHG emissions will yield only a 0.5% decrease relative to the 2010 level. It is estimated that a reduction ninety times as high will be required to limit the risk of climate-related natural disasters. Drawing on the transformative experiences of the past year (some good, many bad) and the IPCC's urgent call to action, this T-Lab will urgently co-produce knowledge for transformative climate action, in order to encourage and support ambitious deliberations at COP26. Ahead of the T-Lab, we will circulate a survey to participants asking them to suggest climate-related transformations and key factors that might enable/constrain those transformations. At the workshop, we will explore with participants how the transformations and enabling/constraining factors interact. Following the T-Lab, we will circulate a follow-up survey to participants asking them to share their informed reflections on the interactions. Then we will model the interactions (e.g., using the Cross-Impact Balances method) in order to identify and assess leverage points for transformative climate action.

Learn more and register [here](#).

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Positive Tipping Points in SES (Climate and Natural Resources)
Learn more and register for the Q&A [here](#).

- **Elke Herrfahrdt-Pähle: "Sustainability transformations: socio-political shocks as opportunities for governance transitions"**

We analyse the potential of rapid, large-scale socio-political change as a window of opportunity for transformation of natural resources governance. We hypothesize that shocks at higher levels of social organization may open up opportunities for transformation of social-ecological systems (SES). Such opportunities need to be carefully navigated otherwise transformations may stall or lead the SES in undesirable directions. We investigate (i) under which circumstances socio-political change has been used as a window of opportunity for initiating transformation towards sustainable natural resource governance, (ii) how the levels of the systems (landscape, regime and niche) interact to pave the way for initiating transformations and (iii) which key features (cognitive, structural and agency-related) get mobilized for transformation. This is achieved through analyzing natural resource governance regimes of countries that have been subject to rapid, large-scale political change: water governance in South Africa and

Uzbekistan and governance of coastal fisheries in Chile. We conclude with important insight on key capacities needed to navigate transformation towards biosphere stewardship. The study also contributes to a more nuanced view on the relationship between collapse and renewal.

Watch the pre-recorded presentation.

- **Kate Massarella: "How can critical social science can contribute to transformative change in biodiversity conservation?"**

A growing number of proposals for transforming biodiversity conservation in the Anthropocene have been put forward, but critical exploration of how transformative change is conceptualised in this context is lacking. Drawing on the latest social science scholarship on transformations to sustainability, this paper analyses the current proposals for transformative change in biodiversity conservation, in relation to both the goals and means of transformation. I will use this analysis to outline the crucial role for critical social scientific inquiry in this transformative change agenda, discussing the approach's two core roles. First, critical social science is highlighted as an analytical device that politicises and pluralises debates to uncover hidden assumptions, issues and limitations. Second, it facilitates the identification and operationalisation of structural, transformative alternatives. I will then use the example of CONVIVA - a global project focused on convivial human-wildlife interactions - to demonstrate a critical social science research approach to transformative change in biodiversity conservation.

Watch the pre-recorded presentation.

- **Per Olsson: "Systems entrepreneurship for transformations to sustainability: agency beyond leverage and tipping points"**

Distributed agency and the concept of systems entrepreneurship has been used to analyze different roles that individuals and organizations can play in transformations to sustainability. This builds on previous research on transformative agency that argued that agents of change that work across scales are needed for whole systems change. The concept of leverage points has been studied in systems thinking, social-ecological systems, and socio-technological systems research, and aims to understand the initial attempts or "targets" for change and how agents can build momentum and associated capacities. However, much of this research has neglected which capacities will be necessary once that lever has been pulled, and a system reaches a tipping point and starts to rapidly move. In this paper we use insights from empirical case studies to show how a framework that considers different phases of transformations (previously established as preparing the system for change, navigating the transition, and consolidating the new system) can help us understand agency and more specifically the capacities needed beyond leverage and tipping points. This is especially relevant for developing transformative responses to shocks and crisis, such as the current Covid-19 pandemic.

Watch the pre-recorded presentation.

- **Laila Sandroni: "Stakeholder mapping as a transdisciplinary exercise for jaguar conservation in the Brazilian Atlantic Forest"**

This paper shares experiential learning from a transdisciplinary stakeholder mapping exercise carried out by the Brazilian Team of the international project entitled "Towards

Convivial Conservation: Governing Human-Wildlife Interactions in the Anthropocene." (CONVIVA). The mapping process was the basis to define collective methodologies for the project moving forward, having a central role in creating the possibilities of actual communication between the researchers from diverse backgrounds in the direction of a common objective. We will depart from a brief outline of the overall project and the Brazilian case and team, to then describe the mapping process and the main issues that emerged from it. Next, we present the resulting maps and their corresponding conceptualizations, to finally present a discussion on what the methodological debates and results can contribute to a more engaged, effective and transdisciplinary conservation research and practice, fundamental to transformation towards sustainability.

Watch the pre-recorded [presentation](#).

- **Victoria Wibeck: "Analogies of transformative tipping points: historical examples as resources to make sense of sustainability transformations"**

Spurring and governing deliberate societal transformations towards sustainability brings about a number of challenges, not the least in view of the uncertainties engendered by the Covid19 pandemic. This presentation explores how historical analogies of societal transformations are used to make sense of what positive tipping points can enable sustainability transformations in an uncertain world. We analyse examples used in the academic and policy literature of drivers and challenges for previous transformative changes in disruptive times. Based on this analysis we will explore the role of disruptions for societal transformations. We distinguish between drivers, interventions and leverage points, i.e., places to intervene in a system, where – in the words of Donella Meadows – 'a small change could lead to a large shift in behavior'. We base our presentation on a cross-country sense-making analysis of sustainability transformations that draws on various sources, including an updated review of scholarly literature, international media, policy documents, e.g., the Nationally Determined Contributions to the Paris Agreement, and Voluntary National Reviews of progress towards the 2030 Agenda, and focus groups with citizens in five countries (Cabo Verde, China, Fiji, USA, Sweden).

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Transforming Worldviews - New Practices and Narratives

Learn more and register for the Q&A [here](#).

- **Juan Garzon: "'Buen Vivir' through the lens of Narrative Transformation"**

'Buen Vivir' is a transformative 'narrative of change'. I explore the process of narrative transformation, mapping the concept's history, analysing it and reflecting on its impact guiding action.

Watch the pre-recorded [presentation](#).

- **Jose DiBella: "Imagination and play as foundational practices for transformation"**

Unsustainable development patterns and socio-economic marginalization are reproduced and reinforced by institutions, discourses, and the widely dominant structure and function of the private sector. Unearthing the leverage points that allow for non-linear shifts in these pathways is a central task in pursuing sustainability. We propose that to accelerate transformative shifts toward sustainability, the formation of new capabilities built on practices that nourish imagination, creativity, and play are foundational for collective action on sustainability and resilience. We draw on examples of practices found in fab labs, maker spaces, urban labs, and creative hubs to suggest how imagination and play can become foundational practices for transformation in broader private sector activity systems. For example, to "curate happenstance" as a critical process for supporting talent development and instilling a sense of multi-disciplinary openness or providing access to resources for scientists, artists, educators, and amateurs to play, mentor and collaborate. These initiatives offer lessons on imagination and play can contribute to creating enabling ecosystems for organizations to address sustainability problems and support these actors in contributing to local transformative processes.

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Learning to Transform - Tools and cases 1

Learn more and register for the Q&A here.

- **Viola Hakkarainen: "Transdisciplinary research in natural resources management: towards an integrative and transformative use of co-concepts"**

Transdisciplinary research often utilizes collaborative ways of knowledge production to enable intended transformations towards sustainability. Multiple concepts with varying definitions are applied leading to confusion in the aims and uses of these concepts. In this presentation, we share results from a review of five concepts relevant to the current debate on the new collaborative ways of knowledge production in transdisciplinary research. We focus on the concepts of co-creation, co-production, co-design, co-learning, and adaptive co-management in the context of natural resources management (NRM). We propose an integrative understanding of the concepts to facilitate collaborative modes and to enable the transformative aims of research processes. To this end we discuss how to harvest the transformative potential of the "co-concepts" by focusing on process orientation, power analysis, and reflexivity.

Watch the pre-recorded presentation.

- **Ying-Syuan (Elaine) Huang: "Beyond indicators and success stories: An emerging method to assess social learning in large-scale climate adaptation programs"**

Facilitated learning approaches are increasingly being used as a means to enhance climate and sustainability collaborations working across disciplines, regions, and scales. With investments into supporting inter- and transdisciplinary learning in major programs on climate and development research on the rise, scholars and practitioners are calling for a more grounded and empirical understanding of learning processes – such as social learning – and their outcomes (e.g. Ensor and Harvey 2015). Yet,

methodologies for studying the interplay between learning and transformative change in these initiatives remain scarce, owing to both the 'hard to measure' nature of learning and the complexity of large-scale program implementation and evaluation. In this presentation we will focus on the method that we used for studying social learning in large-scale programs, assessing its contributions to the resilience of the natural and social systems that these programs seek to influence. Building on theories of systems change, our approach seeks to explicit in distinguishing between isolated change 'events' (meetings, trainings, etc.) and evolutions in deeper patterns, systems structure and mental models that emerge from social learning processes (Senge 1990). A case example will also be shared.

Watch the pre-recorded [presentation](#).

- **Beatrice John: "Walking together for the climate: Empowering experiences and capacity building in a small town in Northern Germany"**

Cities are considered particular places of transformation, but urban sustainability solutions are not easily transferred across city scales. Especially, small cities lack resources and expertise to address sustainability challenges in an appropriate way. They follow their own logic of networking and engaging society and therefore require their own approaches. This case presents insights from Boizenburg/Elbe, a small city in Northern Germany, where a platform has aimed to develop social practices to increase heat resilience. In 2020 a city-wide mental mapping and walking exercise was organized to engage citizens in a context-sensitive and positive way with their environment. To that end, thirteen expeditions guided people by foot, by bike and Stand-Up-Paddles to different locations. At the same time, they were asked to contribute favorite places to an online mapping tool. This format showed an empathic way of engaging with present and future challenges by allowing people to explore and reflect new topics. Applying mapping and walking has since accelerated social practices for climate adaptation in Boizenburg/Elbe. It brought together quiet groups, from different backgrounds in a bottom-up approach. This case report aims to present practical results for other small cities.

Watch the pre-recorded [presentation](#).

- **Kateryna Pereverza: "How to enable collaborative reflexive learning in remote education for sustainability"**

Transformations towards sustainability would require capabilities on different levels (individuals, groups and organisations) to build upon the diversity of perspectives and problem framings, engagement in cross-silo collaborations, and reflexivity to continuously learn from practice. Over the last year, the need to learn and collaborate remotely added to the challenge of developing these capabilities. Universities are places for tipping interventions with great potential to enable the next generations of practitioners to be better equipped for bringing positive changes in society. Our contribution presents the experimental design of a university course with focus on collaborative and reflexive learning among a diverse group of students. We will use timeline mapping to present our approach, and facilitation techniques and exercises we developed within the course "Transdisciplinary approaches for system innovations'' in KTH Royal Institute of Technology. In our approach to the course design, we aimed at a balance between guiding and enabling creativity among students so they can develop their own approaches for structuring, visualising and organising their thoughts and

findings. We used a responsive design based on various feedback mechanisms during the course.

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- **Simona Pedde: "Transformations potential in the Shared Socioeconomic Pathways"**

Scenario analysis has emerged as a key tool in studies of climate change mitigation and adaptation. A recent, widely used scenario set consists of five socio-economic scenarios (Shared Socio-economic Pathways or SSPs) and four emission scenarios (Representative Concentration Pathways or RCPs). Whilst mitigation scenarios (the Shared Policy Assumptions, or SPAs) have been developed, describing the actions necessary to match the climate pathway of the RCPs, there is no systematic approach to address whether and how these actions can be enabled. We start from a novel framework to understand society "potential" capacity to achieve a sustainable future, under SSP assumptions. In presenting our learning from several sectoral and regional applications of the SSP framework, we argue that the global SSP framework needs to include a "transformation" axis in its core. The current SSPs need to embed more explicitly how innovation and development trajectories are including societal and sectoral transformations and how this affects the basic assumptions on population and economic growth of the SSPs. Identifying these societal capacities and transformations that enable the rapid innovation, behavioural change and international co-ordination is essential to develop transformative pathways.

Watch the pre-recorded [presentation](#).

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Facilitating Transformative Encounters: Learning from Latin American Conflicts
Bertha Lucia Fries

There have been successive social outbreaks in various countries of the region, with diverse economic performances and governments of diverse political ideologies. The purpose is to share experiences and knowledge among victims, perpetrators, and expert scientists about these outbreaks and clarify concepts and generate ideas to prevent them. Some believe that the relationship between inequality and rebellion is very close. Others think that polarization could be the relevant concept to explain rebellions or armed conflicts, that inequality is necessary but not sufficient. Still, others say that it is necessary to develop a multidimensional polarization vision to deactivate social conflicts. The T-LAB will promote a dialogue on these and other possible alternatives. TRANSFORMATIVE ENCOUNTER (TE)© We will invite 30-60 victims and victimizers of social outbreaks and armed conflict, mainly from Colombia and Chile, and scientists able to contribute evidence that may disprove beliefs and opinions about key topics and issues brought out during the T-LAB. The Colombian armed conflict victims will explain how the TE allowed them to transcend polarization and create new relationships with their perpetrators. The victims of social outbreaks will dialogue and share their recent experiences and their willingness to dialogue or not with their perpetrator, about their understanding of polarization. The TE will be facilitated by a highly skilled facilitator who also is a victim.

Learn more and register [here](#).

Personal and Psychological Transformations

Learn more and register for the Q&A here.

- **Cecilia Ibarra: "Solar values in the energy transformation in Chile"**

The rapid growth of solar energy for electricity generation gathers general interest, policy attention and international notoriety. We believe this is a good time to reflect on solar energy history in Chile, by scrutinizing the three spheres of transformation (O´Brien, 2018): the technical aspects, systems and structures, and the personal beliefs and values. In this presentation, we will focus on the personal sphere, the shaping of values and networks overtime and its relationship with the changes in the sector position and its potential for supporting an energy transformation. During two years of research, using a public history method (Osses et al, 2019), we observed tacit values in the local solar energy community which could be a compass for the future. Chilean scientists and engineers have ancestors, a phylogeny connecting them, which could be conscious part of their professional identity. We hope that making these tacit assets explicit and open to discussion could contribute to a transformation. They could activate confidence in local capacities, inspire imagination, and awaken a sense of belonging to a world solar community, which is collectively shaped by bringing together passion, respect for their work and conscious action.

Watch the pre-recorded presentation.

- **Rosario Carmona Yost: "Turning inwards for transformation. Towards a more compassionate response to the socio-ecological crisis"**

The socio-ecological crisis has been caused by the increase in human activity, which, in turn, has been based on a dichotomous thinking system that validates an anthropocentric position that conceives nature as an external source of resources for human benefit. The main understandings of the crisis, as well as possible solutions, currently emerge from this same system. Instead of a symptom of the separation from nature, the crisis is understood as a problem, so most responses have been reactive —trying to mitigate or reverse its impacts. Indigenous peoples are emphatic in pointing out that trying to solve this crisis through the same thinking system that caused it is pointless. Observing the problem from a different perspective is mandatory, for that, a process of deliberate transformation is needed. From ethnographic experience among Mapuche communities, and considering the three spheres for transformation —practical, political and personal— (O'Brien and Sygna 2013), this presentation aims to encourage personal agency through the practice of being mindful. Being in the present strengthens our feeling of interconnectedness with nature, which fosters environmental care and can enable us to address the situation from a less reactive and more compassionate and sustainable approach.

Watch the pre-recorded presentation.

- **Kira Jade Cooper: "Mindfulness and the Coronavirus Pandemic: A Catalyst for Sustainability Transformations?"**

The COVID-19 pandemic has brought to light concerns around humanity's increasingly precarious relationship with the biosphere. By compounding the challenges of the

ecocrisis, including worsening rates of privation, inequity, and environmental degradation, this global health emergency has exposed an urgent need for sustainability transformations. Additionally, it has exposed the failures of conventional approaches for achieving lasting wellbeing. In response, alternative pathways towards sustainability transformations, such as through mindfulness nurturing, are worthy of exploration. As early evidence has suggested, mindfulness offers numerous benefits for human health, however, its applications in a sustainability context remain largely unknown. This paper explores how these concepts can be effectively combined and applied in a manner that contributes to transformations for lasting wellbeing in a post-COVID-19 future.

Watch the pre-recorded [presentation](#).

- **Valentina Rizzoli: "Removing barriers to promote transition: the role of psychological distance as a barrier to tipping points"**

This contribution aims to study socio-psychological barriers to radical shifts, which is a crucial step to engage people with the transformations required to contrast climate change. An overall low engagement in behaviors which can promote such transformations has been shown. The gap between the seriousness of a risk and the level of awareness and involvement of public opinion can be explained by how much a risk is perceived as such. People who perceive a risk as psychologically distant do not feel in danger and may not feel the need to adopt pro-environmental behaviors. With the aim of studying the role of psychological distance on the behavioral intention, two different risks - both current and urgent- but which are supposed to be perceived differently, were compared: climate change and covid-19 pandemic. More than 600 questionnaires (half focused on a risk, half on the other) were collected. Together with different dimensions of psychological distance, other factors that can influence the behavioral intention, functioning as barriers, have also been investigated, such as the level of conspiracy. Preliminary results confirmed the role of psychological distance as a barrier. Results will be discussed focusing on how to overcome the factors that emerged as barriers.

Watch the pre-recorded [presentation](#).

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Transforming Extractive Industries 2
Learn more and register for the Q&A [here](#).

- **Jorge Calvimontes: "Confrontation spaces and social organization: opportunities for a sustainable transformation of Brazilian small-scale gold mining sector"**

Artisanal and small-scale gold mining (ASGM) in the Brazilian Amazon is characterized by a deep ambiguity: on one side, it historically represents the engine of socio-economic development, allowing the autonomy of large part of the population (very often the most vulnerable part) that directly or indirectly depend on mining activity; whereas, on the other side, its negative social and environmental impacts, related to informal and often illegal practices, could condemn these regions and their population to unsustainable futures. Over the past few decades, cooperatives and associations of miners (or garimpeiros) have been created to guarantee, through several strategies, their access to mining resources and to face the enforcement policies from the State. As a result, alliances and cleavages between the actors related to ASGM activity, at different levels of

the political action, generate spaces for confrontation, cooperation and transformation. Consequently, the main objective of this paper is to analyze the social organization that arise in these arenas, as well as the potential of these interaction spaces to produce transformations towards sustainability.

Watch the pre-recorded presentation.

- **Gerardo Damonte: "Community Environmental Monitoring"**

Large-scale mining in the Andean countries has caused controversies around environmental control. Specifically, state and corporate environmental management is delegitimized as the population claims that it does not contemplate the alteration of water sources and the impact on their livelihoods. Given this, community environmental monitoring has been proposed as an alternative that comes from the local population. We argue that community monitoring has a series of advantages for environmental control and can make a contribution to guarantee environmental rights to citizens. It also has potential to be integrated into public policy as a tool for democracy and as a source of legitimate information. This proposal has been studied from the case of the Community Monitoring Water basin of the river Cañipía in Espinar, Cusco (Peru). The analysis was based on data collected through qualitative instruments (in-depth and semi-structured interviews) and analytical literature review. This article contributes to the third stream of the seminar as we identify the enabling and limiting factors for the development of community monitoring as an opportunity to transform environmental governance in two axes: more democratic forms of active participation and the inclusion of local knowledge.

Watch the pre-recorded presentation.

- **Susana Higueras: "Creation of mining exclusion zones"**

Given the growing concern about the impact of mining on fragile ecosystems the initiative to create mining exclusion zones has been proposed. This research article argues that communities promote the creation of mining exclusion zones or the patrimonialization of certain areas as a strategy of resistance to mining expansion. We argue that social organizations could be a central factor for the implementation of conservation zones in developing countries. Methodologically, it is based on an analytical literature review and a case study. We review the legal framework that has been used in three Latin American countries: Peru, Colombia and Chile. Then, we select three places Cerro Quilish in Peru, Páramo Santurbán in Colombia and Putaendo in Chile as case studies, where we analyze collective action and institutional changes based on the concepts of social resistance and plural governance. This article is articulated to the third stream of the seminar as we analyze how activism has the capacity to address socio-ecological challenges and promote ways to protect the environment and cultural heritage. We also include the various approaches to territorial governance that comprehend different points of view and cosmologies when it comes to understanding a territory.

Watch the pre-recorded presentation.

- **Ana Paula Lopez: "Community Territorial Governance"**

In the last decades, Andean central states governments have enacted different instruments for land use planning. However, the territorial governance conducted by the

central State has responded to the mining interest rather than to the benefit of local communities. Given this, Community Territorial Ordinance arises to promote, at the community level, the development of political and social capacities in local actors, incorporating management tools for their territories and promoting an alternative land uses to mining. This article argues that it is necessary to include community's land use initiatives to facilitate the implementation of land use planning policies through democratic means that include, as key actors, communities and subnational governments. Methodologically, it is based on an analytical literature review and analysis of the case of the peasant community of Asacasi, Apurimac (Peru), which is part of the area of indirect social influence of the Las Bambas mining project. This research paper is articulated to the third stream of the seminar as we analyze how communities promote this initiative as an opportunity to transform land use planning policy in two ways: building local capacities and favoring the implementation of planning instruments at the subnational level.

Watch the pre-recorded presentation.

- **Januaria Mello: "Artisanal Mining Reserve / Reservas Garimpeiras in the Brazilian Amazon"**

In Brazil, the Artisanal Mining Reserve identifies specific areas delimited and defined by federal administrative acts where small-scale gold mining activities can take place to support the formation of local cooperatives and associations of miners. In the 1970s, these areas were created to solve the conflicts connected with the expansion of gold extraction in the Brazilian Amazon. Currently, they belong to a non-existing category in public policies, as that they no longer respect the aims and scopes they were created for. The purpose of the Ph.D. research is to systematically analyze the evidence on the eight Reserves in the Brazilian Amazon and examine the history and the contextualization of their legal, environmental, social, economic and political statuses. Moreover, weI will gather data about the conceptions of this specific territorial space, to understand how those who live and work there consider this "land category", and how local and regional actors are differently involved in this discourse. This areas area interesting object of study, as they present important questions to reflect over the governance and management of land in the Amazon as well as over the possibilities and diallogue to transformation to sustainability in ASGM.

Watch the pre-recorded presentation.

- **Carlos Henrique Xavier Araujo: "Analysis of an ASGM Cooperative in the Brazilian Amazon (2017 – 2020)"**

The literature presents artisanal and small-scale gold mining (ASGM) as a potential driver for sustainability transformations in remote communities. The successful implementation of such changes requires a radical, transformative approach. This transformation path can be complex because it involves multiple actors' perspectives, ranging from countrywide initiatives to regional and local level solutions. The research discusses how local ASGM actors can contribute to transformations towards sustainability within ASGM communities. A practical example is presented with the observed evolution of technical and legal processes from 2017 to 2020 of a local ASGM cooperative in the Lourenço District, in the Brazilian Amazon. Data collection methods included qualitative and quantitative semi-structured interviews through snowball sampling with stakeholders directly involved in the local ASGM activities. The article

reports the attempts of change that happened in order to solve the issues and discusses the challenges which the Cooperative will yet have to face, so that these operations be considered adequate. The conclusions of the study reiterate the importance of encouraging permanent dialogue between stakeholders and of avoiding top-down measures that limit the miners' will to change.

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Communication for Change

Learn more and register [here](#).

- **Camille Duran: "Engaging audiences "beyond the choir": What it means for your framing"**

Across the wide range of campaigns and projects we've participated in, we realised that the limited understanding of perception and how the mind works strongly limits the impact of change communications and, as a result, of systemic change. Through our programs and research activities, we continuously study psychoanalysis and cognitive sciences (psychology, neuroscience, linguistics, and anthropology), and use this as a basis for our work on narratives and change communications. Typical audience mapping typically consists of a process or conversation about demographics, or psychographics sometimes (value modes). This approach is limited and cannot help transcend the usual audiences to fire up engagement. The Cosmic I.O. method offers a much more effective set of considerations.

Watch the pre-recorded [presentation](#).

- **Camille Duran: "3 Reasons Why Changing the World Is Not About Effort & Sacrifice"**

Across the wide range of campaigns and projects we've participated in, we realised that the limited understanding of perception and how the mind works strongly limits the impact of change communications and, as a result, of systemic change. Through our programs and research activities, we continuously study psychoanalysis and cognitive sciences (psychology, neuroscience, linguistics, and anthropology), and use this as a basis for our work on narratives and change communications.Learning Objective: Most people who identify as change agents / change-makers are vulnerable to a culture of sacrifice and relentless efforts which is doing a lot of harm and dramatically reducing their potential impact on the field. Through revealing keys from the Cosmic I.O. method, Camille shares the story of his transformation from being close to burn out traveling 250days a year, to a new normal where effort and the feeling of sacrifice are inexistent in his life, while project outcomes and commitment are stronger than ever.

Watch the pre-recorded [presentation](#).

- **Camille Duran: "Key errors mission-driven campaigns continuously make in their messaging, and why exactly"**

Session Description: Across the wide range of campaigns and projects Cosmic has participated in, we realised that the limited understanding of perception and how the mind works strongly limits the impact of change communications and, as a result, of

systemic change. Through Cosmic's programs and research activities, we continuously study psychoanalysis and cognitive sciences (psychology, neuroscience, linguistics, and anthropology), and use this as a basis for our work on narratives and change communications. Learning Objective: - Tone of Voice and framings typically limit outcomes and audience engagement, because most of the focus is on the "how to best get this message across". There is an approach that works much better. - Change agents when they communicate are often "object of the desire to change the other". There is an approach that works much better. - The bigger / the more global a story framing, the less it can drive engagement. Why is that?

Watch the pre-recorded [presentation](#).

- **Camille Duran: "The Art of Disidentifying"**

Across the wide range of campaigns and projects we've participated in, we realised that the limited understanding of perception and how the mind works strongly limits the impact of change communications and, as a result, of systemic change. Through our programs and research activities, we continuously study psychoanalysis and cognitive sciences (psychology, neuroscience, linguistics, and anthropology), and use this as a basis for our work on narratives and change communications. Social & env demands are intrinsically linked to a "demand to disidentify". Identity is a slippery slope and a theme we need to learn how to handle in campaigning and change comms. There is a much better way than polarizing the conversation via demands and traditional approaches to messaging.

Watch the pre-recorded [presentation](#).

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Registered participants have access to the online platform and can watch recorded sessions until the end of August.

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Contact information:

2021@transformationscommunity.org

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