Earth League Symposium on Transformation Now!

Organised by:

Stockholm Resilience Centre
Sustainability Science for Biosphere Stewardship

Stockholm University

Planetary Boundaries Research Network

PB, IRI, THESys, copan

PIK Trefoil

Hosted by PIK

PIK Trefoil
Albert Einstein Science Park, Potsdam, Germany

Description

Rapid transformation is urgently on the agenda: humankind is on the brink of melting the Greenland and Antarctic ice caps, disrupting the resilience and diversity of the biosphere, affecting atmospheric and oceanic circulation and endangering the very planetary foundations upon which human progress has rested. Transitioning away from the combustion-based, increasingly outdated modes of operation of the 19th and 20th century to more advanced, sustainable practices in the 21st century now relies on vigorous self-amplification of transformative processes currently beginning in light of growing scientific understanding.

The success of the Paris climate agreement is by no means ensured; fulfilling its objectives requires ratcheting-up of ambitions through social, political and economic progress. It also requires debunking myths of allowable overshooting, climate engineering and no-regrets adaptation. On the contrary, renewable energies are a programme of potential empowerment of the poor, making decarbonisation one of the great programmes for development in this century. The core dynamics of this programme lie in civilisatory progress in all of its forms: social, cultural, political and economic.

The challenge for science is twofold: to consider the biophysical Earth with its human worlds as one whole system, and to consider the opportunities and constraints in the dynamics of the social and
technological systems that can save Earth from leaving the stable Holocene. This symposium will consider the post-Paris need to widening the view toward a handful of critical co-transformations that would allow pathways towards sustainable global development, and processes of their amplification toward tipping into the mainstream. Maintaining planetary boundaries is critical as much for reasons of environmental stability as it is for justice, but time is short. “Transformation now!” is clearly on the table for humankind as a centennial task.

**Programme**

**Day 1, Monday, January 23, 2017**

**Earth League Annual Meeting**

09:30  Internal Business Session of the Earth League *(members only)*
12:30  Lunch

**Earth League Symposium “Transformation Now!”**

14:00  Welcome to PIK and the Symposium (John Schellnhuber)
14:10  Welcome from the Earth League Chair (Johan Rockström)
14:20  Transformation, Modernisation, Global Megatrends (Ottmar Edenhofer)
14:50  Transformative Innovations, Technologies and Deployment Scale-Up (Nebojsa Nakicenovic)
15:15  Discussion
15:45  Coffee break
16:15  Inducing Transformation: Results from the Earth League Elicitation (Ilona Otto)
16:30  Renewables in Asia: Leverage and Effects (Veerabhadran Ramanathan)
16:45  Evidence-Based Narratives on Transformative Trajectories (Peter Schlosser)
17:00  Turning Scientific Evidence into Transformative Policies (Hironori Hamanaka)
17:15  Discussion
17:45  End

**Earth League Reception and Science-Meets-Art Event: “How can a Minority tip the Majority? Inducing Transformations on the Ground”**

19:00  Reception at the Potsdam Museum
19:30  live performance and science-art reflections at the Potsdam Museum
   Discussants:
   Transformation perspectives for South America and the Amazon region (Carlos Nobre)
   World regional diversity and transformation (Tanya Abrahamse)
   Live performance and raising public awareness through engaged sound art (Werner Cee)

**Day 2, Tuesday, January 24, 2017**

09:30  Welcome coffee

10:00  Brief Opening Remarks and Reflection on Day 1 (Johan Rockström)
10:10 Disrupting Major Cycles: Recent Results from Earth System Analysis (Ricarda Winkelmann)
10:25 Modelling Feedback Loops between Societies and the Environment (Jonathan Donges)
10:40 Modelling Pathways: Economics under Environmental Constraints (Elmar Kriegler)

11:00 Panel Discussion "Decarbonisation and a Global Transformation Roadmap"
   (a) Facts, Appeals and Narratives
   (b) Who are the Effective Actors and Partners of Science?
      tbd: Brian Hoskins, Peng Gong, John Schellnhuber, Leena Srivastava

12:00 Wrap-Up: Thinking Through Transformation (Moderation: Wolfgang Lucht)

12:30 End Symposium

12:30 Lunch

Earth League Annual Meeting (Continued)

13:30 Internal Business Session of the Earth League (members only)
   Part 2: Conclusions, plans, strategy, agenda

16:30 Close

19:00 Dinner


**LOOPS-3 Workshop 2017 Transformative change and social-ecological resilience in the World-Earth system: modelling, concepts and data**

See separate program of LOOPS-3 2017 workshop
(By individual invitation only; please send email to Brigitta.Krukenberg@pik-potsdam.de if you would like to be considered for participation)
LOOPS-3 2017

Transformative change and social-ecological resilience in the World-Earth system: modeling, concepts and data

Workshop dates
January 25 – 26, 2017
(back to back with the Earth League Symposium on “Transformation now!”, January 23 – 24, 2017)

Location
Trefoil building, Albert-Einstein-Campus, Potsdam, Germany

Organizers
Jonathan Donges (PIK, SRC)
Jobst Heitzig (PIK)
Wolfgang Lucht (PIK)
James Dyke (UoS)
Sarah Cornell (SRC)

Topics
1. Where are human agency, social networks and complex co-evolutionary interactions in our models of the Anthropocene?
2. What concepts, data and modelling approaches can inform the operational development of World-Earth models?
3. How can these concepts and models (1. + 2.) be applied to the study of transformation focusing on the decarbonization transformation as an example?
Background

The LOOPS workshops bring together global change researchers from diverse perspectives to explore novel approaches for analysis and modelling of the human world and biophysical Earth as a coevolutionary system. Participants share the view that understanding and addressing the global challenges of the Anthropocene demands a new kind of dynamic social-ecological model – a World–Earth model – that complements today’s Earth system models and integrated assessment models with insights about complexity and resilience.

Previous LOOPS workshops have identified priority areas for the development of World-Earth models, a structurally new approach for dealing with planetary social-ecological dynamics: human agency, societal dynamics beyond economics, global networks, and complex social-ecological coevolution. These workshops are co-convened by researchers at the Potsdam Institute for Climate Impact Research (PIK), Stockholm Resilience Centre (SRC), and the University of Southampton (UoS). They are collaborative activities of PB.net, IRI THESys at Humboldt University Berlin, and the Earth League:

- LOOPS-1 2014 (Kloster Chorin, Germany): Closing the loop – Towards co-evolutionary modeling of global society-environment interactions
- LOOPS-2 2015 (Southampton, UK): From Limits to Growth to Planetary Boundaries: Defining the safe and just space for humanity

LOOPS-3 will follow directly after the international Earth League Symposium on “Transformation now!” (www.pik-potsdam.de/earthleague2017), where its high-level science-policy context will be discussed. The focal task of LOOPS-3 will be to scope a co-evolutionary analysis of global decarbonization dynamics within an environmentally safe and socially just operating space. Discussions will address both the methodologies for safe operating space analysis, and the next steps for technical and operational implementation.

Work mode

- Technical talks and ample time during LOOPS-3 for work in break-out groups and reporting back to plenum aiming for synthesis papers, proposals and joint modeling efforts.
- Challenges in the implementation of a World-Earth model will be discussed, for the example of the developing COPAN:CORE model design which emerged from previous LOOPS workshops; participants with other modeling approaches are invited to add them into the discussion.
- Experience from the first LOOPS workshops indicates that plans for publications, collaborations and funding proposals will be produced during the workshop.

Costs and fees

There is no workshop fee. Catering during the workshop will be covered by the organizers. Participants cover their own travel expenses and hotel accommodation. Please contact Brigitta Krukenberg (brigitta@pik-potsdam.de) for help with finding accommodation etc.

Website

Further information can be found on the LOOPS 2017 workshop website: http://www.pik-potsdam.de/loops