

Call for papers for a special issue in *Challenges in Sustainability*

In the Earth System Governance [Task Force Initiative on Sustainability Science](http://www.earthsystemgovernance.org/about/concept), we are considering how sustainability science can engage with and contribute to the ESG conceptual framework, such as the five 'A:s': Architecture, Agency, Adaptiveness, Accountability, and Allocation & Access (see <http://www.earthsystemgovernance.org/about/concept>).

As a step in that direction, we are soliciting submissions for a special issue on Sustainability Science in the journal *Challenges in Sustainability* (CiS). The aim is to offer high quality peer reviewed articles on three strategic themes which we describe below for further inspiration:

1. What is the mission and mandate of sustainability science?
2. What are the achievements in sustainability science research and outreach?
3. What are the theoretical and methodological conflicts and controversies in sustainability science – and what are the future challenges

1. MISSION: WHAT IS THE MISSION AND MANDATE OF SUSTAINABILITY SCIENCE?

Sustainability science seeks knowledge integration across disciplines, domains and scales including natural and social sciences, nature-society, science-society and knowledge-to-action. The quest to produce knowledge and expertise on global sustainability challenges while working actively to reduce the distances between disciplines, theory and practice is what most distinguishes it from other fields.

As stated early on by Cash et al (Cash 2003), sustainability science should be *salient in focus and findings, credible in data and methods, and legitimate in outreach and solution options*. In the ongoing debate on the mandate and mission of sustainability science, proponents stress the *constructive, normative and transformational* attributes along with the core values of *integrity, justice, and viability* (e.g. Wiek et al. 2012, Wiek and Iwaniec 2014).

Sustainability science:

- is defined more by the *problems* it studies and the type of *solutions* it seeks – rather than by its disciplinary content (Clark 2007). Hence, it is often defined by its research purpose, its applicability, and our roles as reflexive researchers (Spangenberg 2011).
- is problem-based and solution-oriented as well as *interdisciplinary* and *transdisciplinary* making it difficult to grasp in its entirety (Kajikawa 2008).
- is problem-oriented and solutions oriented with collaborative purposes and *transformative aims* (Stock and Burton 2011).
- is both *collaborative in* and *critical of* social transformation (Stock and Burton 2011).
- is an established international platform for interdisciplinary research on complex social problems (Miller et al 2013) dealing with 'interconnected problems' (Kaufmann and Arico 2014).

- needs to explore ways 'to promote greater integration and cooperation in fulfilling the sustainability science mandate' (Kaufmann and Arico 2014).

Examples of questions to address

- How do sustainability scientists deal with **normative aspects** of sustainability?
- Does the whole field of sustainability science embrace the same **core ideas/values**?
- To what extent have core ideas **changed** since the emergence of the field in 2001?
- How has sustainability science **developed** in different parts of the **world**?

2. ACHIEVEMENTS: WHAT IS ACHIEVED IN TERMS OF SUSTAINABILITY? WHAT IS ACHIEVED IN TERMS OF METHODOLOGICAL and THEORETICAL ADVANCEMENT?

Sustainability science is supposed to take an integrated, comprehensive and participatory approach (Sala, Farioli, Zamagni 2013). For that it builds on several foundational disciplines and thus also on methodological pluralism. The landscape of sustainability science is continuously integrating previously separate research problems and the whole field is changing rapidly (Kajikawa et al 2007, Kajikawa et al 2014). Concepts like socio-ecological system and transition management are used as theoretical frames to bridge and better understand different but interrelated problem-areas (Kajikawa et al 2014). But sustainability science also goes beyond these frames to engage with critical theory and perspectives.

Sustainability science:

- bridges boundaries between disciplines; social and natural systems; science and society; and knowledge and action (Cash et al 2003, Kajikawa et al 2014).
- focuses not only on the multiplicity of persistent social problems but also on their complex interaction with new sustainability challenges – which are all quintessentially interdisciplinary (Jerneck et al 2011, Stock and Burton 2011).

Examples of questions to address:

- What **main insights** has the field provided regarding cultural, economic, political, social and technological **change** for sustainability?
- What **insights** has the field provided regarding methodological and theoretical aspects of sustainability and sustainability science?

3. CONFLICTS, CONTRADICTIONS, AND CHALLENGES – WHAT ARE THE CONFLICTING VIEWS? WHAT ARE THE METHODOLOGICAL AND/OR THEORETICAL CONTRADICTIONS? WHAT CHALLENGES DOES SUSTAINABILITY SCIENCE FACE?

Interdisciplinarity in sustainability science is making progress and so is transdisciplinarity but at a slower pace (Kajikawa et al 2014) and this discrepancy between promises and delivery must be taken seriously (Stock and Burton 2011).

In a recent article in *Sustainability science*, Wiek et al. (2012) noted that sustainability science fails to make sufficient and significant contributions to potential options for transformational change. New research designs and transformative pathways must therefore be created and explored until, as some suggest, we experience a shift involving a 'transdisciplinary conceptual tipping point' (McGregor 2014). This calls for an informed discussion on the definitions of and directions for transformation and transitions.

Some argue that sustainability science emerged as a revolutionary concept in the Kuhnian sense (Kuhn 1970; Sala, Farioli, Zamagni 2013) thus referring to how the field responded to the scientific crisis in the normal sciences which could neither deal appropriately with the complexity of the new sustainability challenges nor bridge the science-society divide. This statement may be contested on certain grounds – or be further investigated.

Examples of questions to address

- Has sustainability science been the object of resistance or critique?
- If so, what kind of critique has been raised against it and from what ontological, epistemological, and theoretical positions and perspectives?
- Is there a real tension between a 'descriptive-analytical' and a 'transformational mode' of sustainability science – or can it be resolved?
- What is the future of sustainability science; should it remain an open field or should it be institutionalised? Does it compete with or complement disciplinary science?

In case you prefer to **construct your own crosscutting theme drawing on all three themes** we may consider that as a valid option, or you may suggest a new theme for us to consider.

Format and deadlines

We welcome short succinct submissions of around 4000 words and would like authors to structure the paper in three main sections:

- Article statement and argument
- Analysis and discussion
- Outlook

Beyond that, authors should follow the style guidelines stipulated by CiS:

<http://www.librelloph.com/challengesinsustainability/about/submissions#authorGuidelines>

Process

Please submit – as **an-email attachment** – a short preliminary title and abstract (150 words) covering the three aspects (Argument/Discussion/Outlook) no later than 22 January 2016, to:

ellinor.isgren@lucsus.lu.se

We will inform the corresponding author within one week after the submission deadline.

Please submit a first draft of the paper by 20 March 2016 to the online submission system of the Journal CiS. We will instruct you further on that.

All manuscript will be peer reviewed and selection will be based on quality, originality and knowledge contribution. *Challenges in Sustainability* stresses: academic excellence, knowledge dissemination, research rigour, and collaborative scholarly efforts.

Conditions

All published manuscripts and instructions for authors will be available on the CiS website.
<http://www.librelloph.com/challengesinsustainability>

We look forward to your contribution!

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