

Missions for sustainability: New approaches for science and society

Session abstract

Template for session organizers

The session abstracts should provide a brief overview of the session scope and design and a **synthesis of the key discussion points and results** of each session. They should always position the issues addressed in **relation to the [main themes](#)** of the conference.

The session abstracts will serve to prepare a **conference documentation** for dissemination to the interested general public (PDF). They may equally be used as a basis for producing a summary in other formats (multimedia). In addition, these abstracts will inform a **position paper** on mission-oriented research and innovation, prepared by the Leibniz research network after the event.

Please do not attribute statements to individual participants (results-oriented abstract)

Please use accessible language / English only; Total length: ~1500 words

Session organizer(s)

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Session title

How can criteria for socially responsible research facilitate mission-oriented research

Session description (~500 words)

As the state of knowledge increases and science becomes differentiated, research processes are becoming increasingly complex. The resulting challenging situations require an integral approach to research as well as the feedback of its activities and results into social discourse. The **framework for reflection ‘Socially responsible research’**, developed in a joint project called LeNa, was derived with precisely this aim, of taking an integral approach by encouraging critical and systematic reflection on the entire research process.

The session focused on the question, how criteria for socially responsible research can facilitate mission-oriented research. At the beginning, the organizers of the workshop introduced the LeNa project and eight criteria. Then, two of the five EU-missions for 2030 (soil and oceans) were presented by experts of these fields to lead over to a joint discussion.

The first LeNa-project ran from 2013 to 2016. Beside the framework for reflection, it has developed a ‘Sustainability Guide – Sustainability management in non-university research organizations’. This project had a wide range of different issues, ranging from personnel to governance to research. The focus has been on the sustainable mode of research, not on sustainability as a tool or content of research. “Research” as a field of action deals with good scientific practice, researching with social responsibility and contributing solutions to societal challenges. This resulted in the “Reflection Framework for Socially responsible research” with eight criteria of responsible research. A follow-up project called LeNa Shape has started in 2021.

The criteria for research in social responsibility are an essential result of the LeNa-project. To figure out these criteria the main question is: What makes research socially responsible? Based on a literature review the research team identified the top eight criteria for socially responsible research, namely: transdisciplinarity, interdisciplinarity, ethics, user-orientation, complexity and uncertainty, integrative approach, reflection on impacts and transparency. Improving the social responsibility in research processes through the reflection on the eight criteria during all stages of research processes by PhDs, Post-Docs, scientific managers, or senior researchers for example and per research project is of importance for contributions to sustainability transformation in science and society.

The European Union has defined five missions to be achieved by 2030 based on coordinated research. Two guests presented the missions ‘A Soil Deal for Europe’ and ‘Restore our Ocean and Waters’. The soil deal for Europe includes 100 living labs and lighthouses to lead the transition to healthy soils by 2030. The overall objective is to have healthy soils in Europe by 2050.

The mission ‘Restore our Ocean and Waters by 2030’ follows a systemic approach and integrates lighthouses to demonstrate, develop and deploy activities – across EU seas and river basins. Objectives include to protect marine ecosystems, to prevent pollution

and to make the blue economy carbon-neutral and circular. The EU-Mission criteria are linked to the LeNa approach as they also refer to social relevance, fixed goals, and cross-disciplinary collaboration.

Main discussion points and reflections (~500 words)

The joint discussion raised different issues regarding single presentations and intersections. It became clear, that the selection of criteria under which the missions are chosen also partly reflect the eight criteria for socially responsible research. Interdisciplinarity is a key target or concept for the missions so all of the missions will have projects that are looking specifically in interdisciplinary approaches as well as in arts and culture trying to mobilize those who support the mission's objectives.

Especially in ocean research, there are debates on the sustainability or the ecological footprint of research, which is a contested point. There are many perspectives for ethical reflection not only on the goals but also on the means because they justify the outcomes.

The integration of data knowledge is a major task and the key challenge in the ocean mission. It is designed as an open and inclusive model, however, against the backdrop of the long history of monitoring and observation in the ocean. In addition, a modelling is used to understand the oceans.

There is a dilemma to define what healthy soils are: in a language that is easy to understand but also precise in a scientific way in the same time.

A difference between the soil mission and the ocean mission is that the first one is not based on policies: A European soil law does not exist yet, in contrast to surface water and groundwater, which have a long policy history. In addition, the society has a stronger emotional connection to the ocean, because the consequences of the ocean destruction are more tangible for the people. The citizen connection therefore is a very important point and challenge. By contrast, regarding soils the criteria of complexity and uncertainty are more relevant than regarding the oceans.

There are already several projects dealing with transdisciplinarity and interdisciplinarity. The use of the other criteria is less explicit. Regarding the question how to foster the type of socially responsible research, the framework conditions of research need to change in terms of time and financial resources. These framework conditions are a key element for socially responsible research.

Main results and conclusions (~500 words)

Science has moved to a period, where scientists increasingly reflect the consequences of research. Many researchers see themselves as part of societal debates. Therefore,

research for science's sake is questioned from different sides. The EU-missions clearly have a societal connotation. In general, it is important that the framework conditions in research processes change to better enable or establish socially responsible research.