

ESS Seminar Invitation

Transdisciplinary research: barriers, strategies and interventions

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When **March 22, 13.30 – 14.30 pm**

Where **Eawag, 8600 Dübendorf, Überlandstrasse 133, Forum Chriesbach (FC), Room D24**

Abstract

Transdisciplinary (TD) research is a promising mode to tackle complex sustainability issues in the water sector and beyond. In its ideal form, TD research is characterised by a longer-term collaboration between academic researchers from different disciplines and practitioners, typically from different sectors. TD research integrates knowledge and skills from these different backgrounds, aiming to solve a common practical problem. Indeed, the involvement of practitioners has been found to result in knowledge that is more useful in practice. Practitioners can help to adapt knowledge to local contexts and to translate scientific terminology to concepts that are understood in a practical context.

In this presentation I will elaborate on two recent publications about TD research collaboration and discuss ongoing work in the context of the Knowledge-Action Program Water.

I will first present an inventory of barriers to transdisciplinarity and possible interventions to cope with them, based on the literature (Brouwer et al. 2018). The barriers we have identified can be divided into three categories: methodological and epistemological barriers (related to the content of the research), social and political barriers (related to communication and power relationships between the participants), and institutional barriers (related to characteristics of the research system).

Next I will present our analysis of a Dutch water research programme in transition from a mono- to a TD structure (Brouwer et al. 2018). The main findings of the research are first, that efforts to embed a TD approach stimulated interaction between different scientific disciplines (interdisciplinarity), but in some cases hampered the integration of non-academic knowledge and participation in research (co-creation). Second, the composition of TD research groups matters deeply; in our research we found that practitioners had the biggest say, with consequences for research practice. Third, unlike the case of other studies on transdisciplinarity, most researchers in our study recognised the importance of integrating experiential knowledge in research.

Third, I will summarize a comparative analysis of three TD programmes addressing climate change and sustainability that identifies factors that contribute to fruitful collaboration between heterogeneous practitioners (Hessels et al. 2018). Although there is a growing body of literature about the management of TD research programmes as well as the challenges relating to the collaboration between academic researchers and practitioners, empirical research has to date paid little attention to the challenges related to the variation of practitioners involved in these programmes. Contrary to what could be expected from the literature, differences between the practitioners involved have only created significant issues in one of the programmes, and this programme has developed a way to cope with this difficulty. Effective strategies to avoid and limit tensions among practitioners include a focus on bilateral collaborations, the careful selection of programme participants, and the appointment of dedicated project monitors who are responsible for social learning processes.

In the final part of my presentation I will discuss the strategies for TD research employed in the Dutch Knowledge-Action Programme on Water (www.kennisactiewater.nl) and reflect on my own role to monitor and facilitate TD activities in this programme (Hessels and Hordijk 2018). I will draw on a series of interviews conducted at different stages in the programme's development cycle and experiences during workshops and online interactions.

References

- Brouwer, Stijn, Chris Büscher, and Laurens K. Hessels. 2018. Towards transdisciplinarity: a water research programme in transition. *Science and Public Policy* 45 (2):211-220. doi:doi: 10.1093/scipol/scx058.
- Hessels, L. K., and M.A. Hordijk. 2018. Kennis in actie voor water in de circulaire stad. *H2O-Online* 27 augustus.
- Hessels, Laurens, Stefan de Jong, and Stijn Brouwer. 2018. Collaboration between Heterogeneous Practitioners in Sustainability Research: A Comparative Analysis of Three Transdisciplinary Programmes. *Sustainability* 10 (12):4760.