ETH Medal for Lisa Deutsch

January 26, 2026 | Bärbel Zierl
Topics: Society | Climate Change & Energy | Organisation & Staff

Sociologist and political scientist Lisa Deutsch was awarded the ETH Medal for her doctoral thesis written at Eawag and ETH Zurich. Her research demonstrated how interdisciplinary and transdisciplinary research can be successful and how theory and practice can be effectively combined in research.

Every year, ETH Zurich awards the ETH Medal for outstanding master's and doctoral theses. One of this year's medals went to Lisa Deutsch for her doctoral thesis entitled "Practising integration in inter- and transdisciplinary research: The role of enabling conditions and integrative leadership". The ETH Medal was presented during the graduation ceremony on 23 January.

Interdisciplinary and transdisciplinary research in practice

Societal challenges such as climate change, sustainability and pandemics are complex and cannot be easily addressed. In her doctoral thesis, Lisa Deutsch shows that it is not so much a lack of experts that is needed, but rather effective collaboration across disciplinary boundaries (interdisciplinary) and between science, policy and practice (transdisciplinary). For interdisciplinary and transdisciplinary (ITD) integration to succeed, it must be proactively promoted and led.

Suitable enabling conditions, integrative leadership and supportive methods

Based on qualitative accompanying research in three large ITD research programmes and networks in Switzerland between 2020 and 2023, Lisa Deutsch analysed how integration processes can be designed in concrete terms and what are enabling or hindering conditions. Her results show that the interplay of three factors is crucial: suitable enabling conditions, integrative leadership and supportive

methods. "Often, the focus is on just one of these factors. I was interested in examining their interaction and deriving concrete approaches for action at various levels," says Lisa Deutsch.

The three accompanying research programmes and networks

(1) ITD research programme "Extremes" at the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL).

(2) Cross-sector network NCCS (National Centre for Climate Services, administrative office: Federal Office MeteoSwiss) and its ITD research programme "NCCS Impacts"

(3) ITD programme "Wings" (water and wastewater innovations for on-grid solutions) at the Eawag water research institute

Her doctoral theses makes it clear that enabling conditions must be created at several levels – from individual team members, programme managers and directors to programme design and incentive structures in institutions to funders and decision-makers in science policy. Lisa Deutsch also found that integrative leadership plays a key role, for which sufficient resources and integration expertise are needed. Successful leadership of ITD programmes means more than coordination and moderation: it includes not only supportive contributions, but also creative and scientific contributions, as well as actively addressing a variety of leadership challenges. In addition, the thesis presents insights into the application of integrative methods such as the "Theory of Change" to ITD research programmes and discusses how these can help to facilitate and implement integration across interdisciplinary and transdisciplinary boundaries.

Cartoons and a nominated short film illustrate the results

Lisa Deutsch also illustrated her findings with the illustrator and cartoonist Christof Stückelberger and Eawag research group leader Sabine Hoffmann in a series of cartoons entitled "How interdisciplinary and transdisciplinary integration will fail for sure". The scenes depicted provide interdisciplinary food for thought in a humorous way. They invite readers to rethink their own research behaviour and discuss with team members how ITD research can be jointly and successfully implemented in practice.

DENY EARLY CAREER RESEARCHERS ANY COMPETENCIES

Cartoons: How interdisciplinary and transdisciplinary integration will fail for sure. Scenes from interdisciplinary and transdisciplinary research. To the Cartoons (Cartoons: Lisa Deutsch, Sabine Hoffmann, Christof Stückelberger)

In addition, the animated short film "Verhebets? Ein ressourcenorientierter Apéro" was produced in collaboration with other young researchers from the Wings research programme and nominated by the Global Science Film Festival in the category "Best Short Film 2023". It explains the potential of resource-oriented urban water management and answers frequently asked questions and concerns of key stakeholders.

Animated short film "Verhebets? A resource-oriented aperitif"

Overall, Lisa Deutsch's doctoral thesis combines theory and practice and provides concrete, action-oriented insights for anyone who wants to strengthen interdisciplinary and transdisciplinary research and make an effective contribution to solving future societal issues. "I was particularly impressed by the enthusiasm and dedication with which the programme leaders participated in the regular focus groups. This space for reflection made it possible to incorporate findings from the accompanying research into the ongoing programmes at an early stage – rather than waiting until the end of the project, when they might potentially disappear into a drawer."

The work was carried out as part of the Eawag Wings programme in the Eawag Inter- and Transdisciplinary Research Group (Dr Sabine Hoffmann) as well as the Transdisciplinarity Lab (Prof. Christian Pohl) and the Weather and Climate Risks Research Group (Prof. David N. Bresch) at ETH Zurich. Lisa Deutsch currently works as a staff member and project manager

for the Department of Health and Environment of the City of Zurich.

Cover picture: ETH Zurich presents Lisa Deutsch with the ETH Medal for her doctoral thesis, which she wrote at Eawag and ETH Zurich.(Photo: Sabine Hoffmann)

Publications

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nge, sustainability transformations and pandemics, the question of how these challenges can be adequately addressed has become increasingly urgent in re
cent years. In the highly differentiated societies of the 21st century, ther
e is generally no shortage of experts who can make a valuable contribution t
o addressing these problems. However, what tends to be lacking is a meaningf
ul integration of these individual perspectives across disciplinary boundari
es (interdisciplinarity) as well as the integration of knowledge from scienc
e, policy and practice (transdisciplinarity) in order to avoid a one-sided u
nderstanding of and solution to the aforementioned challenges. For this reas
on, more and more inter- and transdisciplinary research programs are being s
et up to address societally relevant issues by bundling several projects und
er one roof and involving a large number of different disciplines and stakeh
olders. However, this integration does not take place automatically, but mus
t be proactively encouraged, fostered and led. This dissertation aims to con
tribute to the theoretical understanding as well as the practical implementa
tion of inter- and transdisciplinary (ITD) integration in research programs
and projects by embracing three research foci: (a) the role of conditions un
der which ITD integration takes place (structures), (b) the role of integrative leadership to advance ITD integration processes (agency), and (c) the role of integrative methods to facilitate ITD integration (<
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tainability; science to action; critical realism' (124 chars) description => protected'Complex global social-ecological challenges of our time such as climate chan
ge, biodiversity loss or, more recently, the Covid-19 pandemic can neither b
e comprehensively understood nor properly addressed by employing a single di
sciplinary or sectoral perspective. For this reason, more and more large int
er- and transdisciplinary (ITD) initiatives are on the rise, intending to op
en up the silo-like production of knowledge and to advance the integration o
f different fields of expertise within academia, but also across science, po
licy and practice. While the need for ITD initiatives in order to both under
stand and address the complexity of such global socio-ecological challenges
has increasingly been acknowledged by research institutions, funders and pub
lic authorities, a question remains concerning the extent to which prevailin
g conditions suffice for conducting ITD research, particularly in terms of w
hether the envisioned integration of perspectives and actors really happen i
n practice. This paper embraces a holistic view on ITD integration by presen
ting both an analytical framework and empirical insights from three ITD init
iatives based in Switzerland dealing with sustainable urban water management
, (future) extreme events and cross-sectoral climate impacts and climate ser
vices in different socio-economic contexts. The framework is based on critic
al realist reasoning and employs a structure-agency lens by distinguishing c
onditions of integration at different structural levels, while also acknowle
dging the power of actors to shape integration and the respective structures
. The paper thereby illustrates and helps diagnose the source of challenges
experienced in living up to ITD integration endeavors and how these differen
t structural levels are interrelated and impact ITD integration. We conclude
by discussing entry points for action aimed at transforming currently unfav
orable structures into favorable ones. We thereby intend to provide, in part
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rams; actionable knowledge' (102 chars) description => protected'This paper focuses on the critical role of integrative leadership in inter-

and transdisciplinary (ITD) research programs. ITD programs have become one of academia's responses to address contemporary sustainability challenges. F ulfilling the promise of such programs is extraordinarily challenging for al l involved participants, but especially for program leaders who have to ensu re that the perspectives of the involved program participants become truly i ntegrated and that final and useful synthesis outputs are created. We presen t six core leadership challenges and respective strategies to address them t o advance integration within ITD programs. These challenges include (1) mast ering complexity and ambiguity, (2) advancing decision-making with lateral l eadership, (3) ensuring responsibility and accountability, (4) setting progr am boundaries, (5) selecting suitable projects, and (6) dealing with misconc eptions. We derived these challenges and respective strategies from both lea ding and studying in-depth three ITD programs focusing on sustainability iss ues in Switzerland. With this paper, we intend to promote awareness about th e range of leadership challenges in ITD programs and provide actionable know ledge, which can support in particular fellow and future leaders, but also f unders and heads of research institutions in their efforts to realize the in tegrative potential of such programs.' (1405 chars) serialnumber => protected'1862-4065' (9 chars) doi => protected'10.1007/s11625-024-01585-4' (26 chars) uid => protected33548 (integer) _localizedUid => protected33548 (integer)modified _languageUid => protectedNULL _versionedUid => protected33548 (integer)modified pid => protected124 (integer) 3 => Snowflake\Publications\Domain\Model\Publicationprototypepersistent entity (uid=22292, pid=124) originalId => protected22292 (integer) authors => protected'Deutsch, L.; Belcher, B.; Claus, R.; Hoffmann, S.' (69 chars) title => protected'Leading inter- and transdisciplinary research: lessons from applying theorie

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ter management; research programs' (109 chars) description => protected'Theory of Change (ToC) has been promoted as a useful tool in sustainability

research for visioning, planning, communication, monitoring, evaluation and learning. It involves a mapping of steps towards a desired long-term goal su pplemented with continuous reflection on how and why change is expected to h appen in a particular context. However, there is limited reported experience with the development and application of ToCs in inter- and transdisciplinar y research contexts. While some previous publications have focused on ex-pos t application, there has been little discussion about the process of develop ing and using ToCs in strategic planning and monitoring in large inter- and transdisciplinary research programs. This article reports challenges and les sons learned from the experience of developing and using ToCs in the inter- and transdisciplinary research program Wings (Water and sa nitation innovations for non-grid s olutions). Challenges include (1) managing time constraints, (2) balancin g between concrete and abstract discussions, (3) ensuring diversity in group composition, (4) fluctuating between reservations and appreciation, and (5)

fulfilling both service and science roles while leading the ToC process. Th
e experience highlights the importance of alternating formal and informal in
teraction formats throughout the process, ensuring heterogenous group format
ion, involving early career scientists, being responsive to emergent needs a
nd making the added value of developing and using ToCs explicit and tangible
for all participants. Although these lessons are mainly derived from develo
ping ToCs within the interdisciplinary program team, they can support other
programs in both their inter- and transdisciplinary research endeavors.' (1819 chars)
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