

Conference report

Transition to transdisciplinary science: solutions for complex societal issues

This report provides an overview of the speakers and highlights the key takeaways from the event.



*This report is based on the conference *Transition to Transdisciplinary Science: Solutions for Complex Societal Issues* (11 April 2024, Erasmus University Rotterdam). The key takeaways have been summarized by Marije Wassenaar, Julia van Oord, and Marlies Meilof.*

Conference photos in this report were taken by photographer Sander van Wettum.

On April 11, nearly 100 scientists, policymakers, and innovation experts convened at Erasmus University Rotterdam. The participants demonstrated their familiarity with the topic. The room was filled with experience, openly shared insights on what works and the challenges of transdisciplinary science, leading to productive discussions.



Key insights shared by several speakers included:

- The necessity for a long-term and consistent funding policy.
- A desire for flexibility in funding schemes and opportunities for experimentation.
- Recognition of the additional skills required for this type of research, leading to the adoption of recognition and rewards schemes within university structures.
- The establishment of a learning community comprising researchers, stakeholders, governmental bodies, and innovation experts.

The speakers and participants concluded that achieving sustainable transdisciplinary collaboration requires a multifaceted approach. This includes intrinsic motivation, skill development, institutional support, appropriate funding, and a commitment to fostering diverse perspectives. It is crucial to invest consistently in this approach, moving from occasional efforts to a sustained strategy. Moving forward involves not only individual efforts but also transformative changes in organizational and cultural practices. As we aim for a better future, transdisciplinary research will be essential in driving meaningful progress.

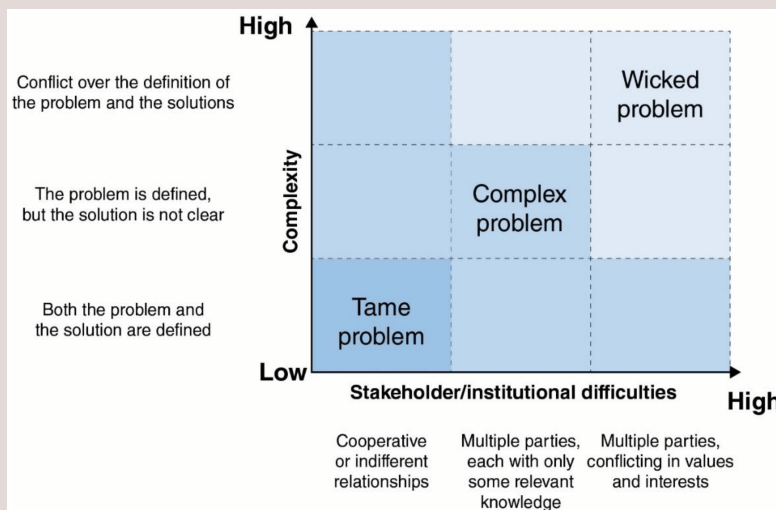


In her keynote address, Prof. Dr. Liesbeth Noordegraaf-Eelens highlighted the importance of transdisciplinary science. She emphasized that society is grappling with complex issues that have a disruptive impact, necessitating that universities increasingly focus on making societal contributions, which is considered their third mission. She also presented the graph (shown below) related to complex societal problems.

” Do not become entangled in debates over the distinction between fundamental and applied knowledge; both are crucial.

She concluded with the following takeaways:

- Recognize that science is not a neutralizer and develop strategies to address conflicts of interest (normative aspect).
- Understand the importance of diverse knowledge and create academic methods to manage conflicts of interest, preparing for societal debates.
- Invest in long-term engagement.



The graph presented by L, as referenced in Sediri S, Trommetter M, Frascaria-Lacoste N, and Fernandez-Manjarrés J's work titled "Transformability as a Wicked Problem: A Cautionary Tale?" in the journal Sustainability (2020), volume 12, issue 15, can be found at <https://doi.org/10.3390/su12155895>.



“Everything is technology, but technology is not everything.”

In his keynote address, Dr. Eppo Bruins, chairman of the AWTI, highlighted the significance of transdisciplinarity for fostering innovation in the Netherlands, he advocated for a broader approach to innovation that integrates social sciences and humanities, as well as encourages collaboration across disciplines. He emphasized the notion that "Everything is technology, but technology is not everything."

His key points included:

- The necessity for the government to develop an appealing and inspiring vision for the future of the country.
- The removal of barriers to all forms of interdisciplinary collaboration.
- The enhancement of inclusivity in innovation policy, such as through discussions on the need for co-financing and recognizing that transdisciplinary endeavors require long-term projects and grants.
- A greater emphasis on innovation, emphasizing that top-tier research with practical applications is not inferior in scientific excellence.
- The creation of clearer visions for transdisciplinary research.

Here is an overview of related AWTI documents (in Dutch):

- [Vanzelfsprekende verbinding - Veranker SGW-onderzoek in innovatie](#)
- [In dienst van de toekomst - Van optimalisatie naar transformatie](#)
- [Samen grip krijgen op wicked problems: lessen uit de coronacrisis](#)
- [Grenzenloos Onderzoeken](#)

The session titled "**Programming of Transdisciplinary Research**" featured presentations by Dr. Michiel van den Hout from the Dutch Climate Research Initiative (KIN) and Martin Blokker from ACCEZ. The urgency of addressing the challenges posed by the climate crisis was highlighted as the driving force behind the establishment of KIN. It underscores the importance of a coordinated effort to expedite systemic transition from both a research and societal perspective.

ACCEZ, an initiative led by the province of South Holland, focuses on accelerating the transition to a circular economy by 2050. Developed in collaboration with various stakeholders, including LDE (Leiden Delft Erasmus Universities), ACCEZ aims to facilitate collaboration among the appropriate partners and translate collective knowledge into tangible action.

The session titled "**Transdisciplinarity in Practice**" featured presentations by Dr. Julia Whittmayer (DIT), MSc Johnathan Subendran (Resilient Delta Initiative), and Drs. Albert Engels. Julia discussed the findings of her recent research conducted among EUR scientists, focusing on opportunities for institutional change to promote and facilitate interdisciplinary science. Johnathan delved into an innovative approach to knowledge integration known as a "gluon scientist," drawing from his experiences collaborating with the municipality of Dordrecht. Representing the perspective of a public stakeholder, Albert Engels, a senior process manager at the municipality of Rotterdam, shared insights.

Key takeaways from both sessions included:

- Highlighting the importance of intrinsic motivation in sustaining collaboration, emphasizing the significance of nurturing passion and personal development over financial incentives.
- Recognizing the need for structural investment and flexibility in funding mechanisms to foster a culture of collaboration and innovation.
- Exploring the skills needed by researchers in transdisciplinary projects. Participants and speakers underlined the importance of finding people who can understand and navigate the disciplines, perspectives and ways of communicating among the various stakeholders involved. The value of mentorship and support for researchers facing these challenges was also highlighted.

Dr. Lotte Krabbenborg presented a preview of an upcoming report by a working group from the "Young Academy" titled Collective Knowledge Development. This report aims to recognize and reward researchers and civil society organizations engaged in transdisciplinary research.

During her talk, she highlighted several key points:

- These proposals require more time and resources than monodisciplinary projects. Strategies should be explored to maintain the network of public stakeholders and scientists when a project does not receive funding.
- There is a need for greater recognition of additional skills. The current recognition and reward schemes at universities should be accelerated and implemented more swiftly.
- Transdisciplinary research should be regarded as a legitimate form of research, not merely as a means to achieve impact.
- Additionally, efforts should be made to revise funding and research paradigms. This includes implementing funding schemes without co-funding requirements and creating opportunities for physical and informal meetings to facilitate interaction and capacity building.



During the panel discussion, Dr. Michiel van den Hout, Jaap Lombaers (standing in for Wimar Bolhuis), and Dr. Lotte Krabbenborg addressed several key topics:

- Mainstreaming transdisciplinary collaboration: The panel emphasized the necessity of collaborative efforts to effectively tackle societal challenges. They anticipated a significant increase in interest and engagement in transdisciplinary collaboration over the next decade.
- Transdisciplinary innovation: The discussion focused on "transdisciplinary innovation" rather than merely "science." The emphasis was on practical solutions and implementation rather than just knowledge generation.
- Engagement with society: The panel acknowledged the challenges of engaging all segments of society, emphasizing the importance of inclusivity and diversity. They advocated for more creative methodologies beyond traditional research approaches. This includes involving PhD students in real-world experiences such as internships and volunteering to deepen their understanding of societal issues.
- Transition from competition to collaboration: There was a call to shift from a competitive to a collaborative mindset. This involves encouraging openness, flexibility, and experimentation in research projects. The emphasis was on inspiring and supporting each other while creating opportunities for newcomers to contribute to innovative networks.

Overall, the panel called for collective action and encouraged researchers to share ideas and suggestions for improving the research landscape, fostering a learning community.

Martijn Poel, manager at the department of research & science policy of the Ministry of Education, Culture and Science was asked to give his personal reflection on the afternoon. He emphasized that gatherings such as these are needed to raise awareness for the topic of transdisciplinarity. He recognized most of the challenges and summarized that an open mind, a longterm consistent approach and partnerships are necessary to support this type of research.

Learning community

Visit our Transdisciplinary Science webpage for additional information, useful links, and related activities. If you're interested in joining a [learning community on this topic](#), [please fill out the form](#) available on the page.

Useful links

- Whitepaper '[Effectiever innoveren voor het oplossen van maatschappelijke opgaven - Zes voorstellen voor aanpassing van het Nederlands instrumentarium voor gezamenlijk innoveren](#)' (whitepaper in Dutch).
- Presentation slides:
 - Liesbeth Noordegraaf-Eelens - [Transdisciplinarity](#)
 - Michiel van den Hout - [KIN](#)
 - Lotte Krabbenborg - [Collective knowledge development: towards better recognition and reward of transdisciplinary research](#)
 - Julia Wittmayer - [Institutional Challenges for Transdisciplinary Researchers](#)
 - [From Knowledge to Action: A transdisciplinary approach to bridge research and practice](#)

We extend special thanks to the speakers for their insightful contributions and to the participants for their engaged involvement. Your dedication and collaborative spirit were instrumental in the event's success, significantly enriching the discourse on transdisciplinary research.

