



## Pathways to Interdisciplinary and Transdisciplinary Research: the SHAPE-ID Toolkit

Find tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

# Understand inter- and transdisciplinary research

### Abstract

Several different labels – inter-, multi- and transdisciplinary research, collaborative research and team science – are used to describe research across disciplines and sectors of society. This can create confusion and make it more difficult for Arts, Humanities and Social Sciences researchers and creative practitioners to get a foothold in these projects.

This publication compiles resources collected as part of the SHAPE-ID project to support researchers, funders/policymakers, research organisations and societal partners in understanding inter- and transdisciplinary research.

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### Acknowledgements

SHAPE-ID consortium members

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## Online source – SHAPE-ID Toolkit

This publication is an extract of the SHAPE-ID Toolkit. For a general overview, visit: [10.5281/zenodo.4743703](https://doi.org/10.5281/zenodo.4743703).

The Toolkit provides tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

## Contributors & Co-producers

The SHAPE-ID resource collection series is an artefact of collective wisdom. Some resources were generated by the SHAPE-ID team, but many were already available online and the toolkit acts as a gateway to locate them. The SHAPE-ID collection series is based on discussions with and inputs from the SHAPE-ID consortium members, namely Anna Buchner, Maureen Burgess, Bianca Vienni Baptista, Caitriona Curtis, Isabel Fletcher, Giorgia Galvini, Catherine Lyall, Maciej Maryl, Jane Ohlmeyer, Christian Pohl, Andrea Ricci, Carlo Sessa, Jack Spaapen, Sibylle Studer, Doireann Wallace, Piotr Wcislik, Keisha Taylor Wesselink, Declan Whelan-Curtin.

## SHAPE-ID resource collection series

- Understand inter- and transdisciplinary research: [10.5281/zenodo.4743671](https://doi.org/10.5281/zenodo.4743671)
- Develop collaborative conditions: [10.5281/zenodo.4743673](https://doi.org/10.5281/zenodo.4743673)
- Co-create a research project: [10.5281/zenodo.4743675](https://doi.org/10.5281/zenodo.4743675)
- Fund collaborative research: [10.5281/zenodo.4743677](https://doi.org/10.5281/zenodo.4743677)
- Evaluate inter- and transdisciplinary research: [10.5281/zenodo.4743679](https://doi.org/10.5281/zenodo.4743679)
- Disseminate inter- and transdisciplinary research findings: [10.5281/zenodo.4743683](https://doi.org/10.5281/zenodo.4743683)
- Improve inter- and transdisciplinary research skills: [10.5281/zenodo.4743685](https://doi.org/10.5281/zenodo.4743685)
- Support collaborative researchers: [10.5281/zenodo.4743687](https://doi.org/10.5281/zenodo.4743687)
- Develop a career in inter- and transdisciplinary research: [10.5281/zenodo.4743689](https://doi.org/10.5281/zenodo.4743689)

## Understand Inter- and Transdisciplinary Research

Several different labels – inter- multi- and transdisciplinary research, collaborative research and team science – are used to describe research across disciplines and sectors of society. This can create confusion and make it more difficult for Arts, Humanities and Social Sciences researchers and creative practitioners to get a foothold in these projects.

### Resource highlights

- ▶ Guide to the roles that Arts Humanities and Social Sciences can play in inter- and transdisciplinary research: [10.5281/zenodo.5116019](https://doi.org/10.5281/zenodo.5116019)
- ▶ Annotated bibliography collection on inter- and transdisciplinary research: [10.5281/zenodo.4743697](https://doi.org/10.5281/zenodo.4743697)

### Subtopics

Learn more about ID/TD



Understand different motivations for ID/TD



Understand the roles that AHSS can play



Read inspiring case studies



## Resources per subtopics

### Learn more about ID/TD [▲](#)

One of the key scholars working in this field, Julie Thompson Klein, gives an overview of how to think about interdisciplinarity in this video of her plenary talk at the i2S conference in 2014.

[WATCH VIDEO](#)

This handout accompanies Julie Thompson Klein's talk at the i2S conference in 2014.

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There are several large (and not very well linked) literatures on how to define inter- and transdisciplinary, as well as related terms such as collaborative research, team science and AHSS integration. The SHAPE-ID team has produced two short annotated bibliographies to introduce newcomers to a set of key texts from a range of these different literatures. The first of these presents key readings from the academic literature, organised according to the goals used in this toolkit.

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The second of our annotated bibliographies presents key recommended readings from the policy literature.

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Bianca Vienni Baptista and Christian Pohl have produced a heuristic tool that can be used by groups to reflect on the shared understandings of ID/TD present in a team, funding call or project/program. This tool takes the form of a set of questions to reflect on the different definitions of ID/TD used in particular contexts and their implications. [COMING SOON]

Participation in inter- and transdisciplinary research is currently less common among arts and humanities scholars and practitioners than it is among social scientists. Because of this, less has been written about what the arts and humanities can bring to inter- and trans-disciplinary research. Keri Facer and Kate Pahl address this gap in their 2017 book exploring the value of collaborative research in the Arts, Humanities and Social Sciences. Their edited collection includes voices and perspectives from researchers and practitioners in a wide range of arts and humanities disciplines, and beyond.

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In many sciences, research is often conducted in large teams. Efforts to improve such ways of working have developed into an approach known as the Science of Team Science (SciTS). The Team Science toolkit and other resources are being re-developed but their work on interdisciplinary integration is being further developed by the INTEREACH community of practice.

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This Open Access article describes another important set of Team Science resources for those interested in working across disciplines and between different sectors of society. [VISIT SITE](#)

### **Understand different motivations for ID/TD [^](#)**

Because the labels inter- and transdisciplinary research cover such a wide spectrum of activities, individuals can have very diverse motives for undertaking such research. These can range from a very pragmatic desire to meet the criteria of a funding call to links with other disciplines or sectors that have organically evolved when working on a particular topic.

In this short talk, Myra Strober describes the need to 'design for interdisciplinarity' in order to work collaboratively on solutions for complex problems.

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Catherine Lyall conducted a series of interviews with established researchers. In Chapter 2 of her book, she describes two contrasting motivations for undertaking this type of research: a problem-solving approach using IDR to address real world issues versus an individual career approach where IDR can broaden a researcher's horizons.

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### **Understand the roles that AHSS can play [^](#)**

Approaches from the Arts, Humanities and Social Sciences can: allow us to understand the complexity of behaviour and identities; challenge or disrupt accepted ideas; enable a focus on discourses, narratives and representations; enhance reflexivity; foster intercultural and intergenerational dialogue; provide critical, ethical and historical perspectives; and reframe problems to focus on human experience.

Trinity College Dublin has produced a short video on the role that arts and humanities can play in interdisciplinary research.

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In this report the British Academy shows how knowledge exchange in the SHAPE disciplines – Social Sciences, Humanities and the Arts – brings significant social and

economic benefits, which universities can capture through the Knowledge Exchange Framework (KEF).

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The League of European Research Universities (LERU) published an account of the role of the creative arts in research universities.

[READ PDF](#)

This blogpost from the Scottish Graduate School of Arts and Humanities highlights the contributions of history, folklore and medieval studies to wider research, concluding that interdisciplinarity is 'a vital component of 21st century academia.

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The Irish Research Council's *Creative Connections Synthesis* report outlines the results of a series of workshops designed to bring researchers in STEM together with researchers in AHSS.

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The UK Arts and Humanities Research Council (AHRC) produced a report outlining arts and humanities contributions to research on the environment.

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It also produced a report on the findings of the Cultural Value Project which examined the value of the arts and culture to individuals and society.

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This report evaluates the Wellcome Trust's Sciart scheme, which funded collaborations between artists and biomedical researchers.

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This chapter of the *Valuing Nature* report looks at the role of art in environmental research.

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The potential roles for the environmental humanities outlined in this blogpost are also relevant to many other areas of AHSS research.

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SHAPE-ID has also produced a short guide to the roles that the arts humanities and social sciences can play in inter- and transdisciplinary research.

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## Read inspiring case studies [▲](#)

Case studies are helpful in showcasing how AHSS research and creative practice can contribute to inter- and transdisciplinarity, and good practice in supporting such efforts. The SHAPE-ID team have produced a series of case studies introducing relevant research projects, institutional initiatives, funding programmes and research infrastructures. We have also compiled links to a range of case studies produced by other organisations.

The SHAPE-ID team have developed a series of case studies showcasing AHSS-led inter- and transdisciplinary research projects, drawn from SHAPE-ID workshops and our wider network.

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Two SHAPE-ID institutional case studies demonstrate how research performing organisations can support inter- and transdisciplinarity.

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Our SHAPE-ID funding case studies describe innovative funding schemes that support AHSS capacity building and leadership in inter- and transdisciplinary research.

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Our SHAPE-ID research infrastructure case studies introduce CLARIN and DARIAH, two European research infrastructures for the Arts Humanities and Social Sciences.

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The April 2021 SHAPE-ID newsletter includes a series of mini case studies on AH-led inter- and transdisciplinary research, and how to support it.

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Net4Society have produced a series of factsheets showcasing successful SSH-STEM collaboration across Horizon 2020 societal challenges work programmes. Interviews with PIs highlight the added value of SSH participation and recommendations for successful interdisciplinary collaboration.

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Science Europe have also published a series of case studies highlighting the impact of humanities research on all seven Horizon 2020 challenges.

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Humanities research is an important component of a number of the case studies highlighted in the 2020 OECD report *Addressing societal challenges using transdisciplinary research*.

[READ PDF](#)

The *artists-in-labs program* at the Zurich University of the Arts has been facilitating artistic research by way of long-term residencies for artists in scientific laboratories and research institutes, promoting sustainable collaboration between artists and scientists of all disciplines.

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*Collective Wisdom* is a first-of-its-kind field study of the media industry, which examines how people co-create within communities, across disciplines, and with algorithms.

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*netCommons* is a Horizon2020 research project, which follows a novel transdisciplinary methodology on treating network infrastructure as commons, for resiliency, sustainability, self-determination, and social integration.

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