



Akademien der Wissenschaften Schweiz
Académies suisses des sciences
Accademia svizzera delle scienze
Academias svizas da las ciencias
Swiss Academies of Arts and Sciences

td-net
Network for Transdisciplinary Research

A Tour d'Horizon of Literature Related to Transdisciplinarity Published in 2014

The number of publications in the field of inter- and transdisciplinary research has been steadily growing during recent years (http://www.transdisciplinarity.ch/e/Bibliography/Publikationstrend_itd.php).

In order to give an overview the td-net invites experts of transdisciplinary research every year to inform us about important recent publications in the area of transdisciplinarity (see list of contributors). In this document we present new literature published in 2014 with short annotations written by the experts that recommended the publications.

We would like to thank the contributors for their inputs and are looking forward to another productive year for transdisciplinary research.

"Tour d'horizon" literature lists from previous years can be found here
<http://www.transdisciplinarity.ch/e/Bibliography/new.php>

More information about transdisciplinary literature is available from the "bibliography transdisciplinarity" at
<http://www.transdisciplinarity.ch/e/Bibliography/>

The content is interactive and the biographical data is hyperlinked with the matching website.

Categories

General overviews	2
Concepts of inter- and transdisciplinarity	2
Problem framing	3
Problem orientation of research	3
Participation	4
Knowledge exchange	4
Inter- and transdisciplinary research methods	5
Education for inter- and transdisciplinary research	5
Biographies of TD researchers	5
Team science	6
Perspectives from the arts and design	6
Transdisciplinarity in action: projects and case studies	6
Environmental humanities	7
Sustainability science	8
Risk	8
Information technology	8
Psychology	8
<i>Contributors</i>	9

General overviews

O'Rourke M, Crowley S, Eigenbrode S D, Wulfhorst J D (eds) 2014. *Enhancing Communication & Collaboration in Interdisciplinary Research*. Thousand Oaks, California: SAGE Publications.

"Designed to inform both teaching and research, this innovative book covers the spectrum of interdisciplinary activity, offering a timely emphasis on collaborative interdisciplinary work." (fd)

"*Enhancing Communication and Collaboration in Interdisciplinary Research* collects 18 original chapters that address a wide range of challenges confronting interdisciplinary researchers from a variety of perspectives. Including contributions by leaders in the fields of interdisciplinary and transdisciplinary research and practice, the book offers insights and enhancements in the form of case studies, practical tools, contextual applications, and theoretical frameworks." (rf)

"The book explores strategies for addressing each of the two key barriers to cross-disciplinary communication: differences in the meanings attached to terminology, and differences in philosophical/methodological perspective. The individual chapters were presented at a conference held in 2011, and have been extensively revised." (rs)

Repko A F, Szostak R, Buchberger M P 2014. *Introduction to Interdisciplinary Studies*. Thousand Oaks: SAGE Publications.

"The long-awaited intro text which serves as a companion volume for the second edition of *Interdisciplinary Research: Process and Theory*." (wn)

"This book is written with a view to the practice of interdisciplinary work and the scholarly debate on interdisciplinary work at the same time. It is comprehensive as well as simple without simplifying, and although it addresses students it is interesting for all those doing interdisciplinary work." (rd)

[» back to content](#)

Concepts of inter- and transdisciplinarity

Darbellay F, Moody Z, Sedooka A, Steffen G 2014. *Interdisciplinary research boosted by serendipity*. *Creativity Research Journal*, V26, N1, pp 1-10.

"This article offers an excellent analysis of the central role of serendipity (novel connections drawn between previously disparate concepts, methods) in interdisciplinary research." (ds)

"Interdisciplinary research can be defined as the practice of discovering new objects of knowledge beyond disciplinary borders. The aim of this article is to take stock of the theoretical and methodological issues involved in the interdisciplinary research process from the perspective of serendipity, which is a creative process of considerable value to science." (fd)

Nicolescu B 2014. *From Modernity to Cosmodernity. Science, Culture, and Spirituality*. New York: SUNY Press.

"This book offers a new paradigm of reality, based on the interaction between science, culture, spirituality, religion, and society. Basarab Nicolescu heralds a new era, cosmodernity, in which reality is plastic and its people are active participants in the cosmos, and the world is simultaneously knowable and unknowable. The author notes a new spirituality free of dogmas and looks at quantum physics, literature, theater, and art to reveal the emergence of a newer, cosmodern consciousness." (bn)

Alrøe H F, Noe E 2014. *Second-Order Science of Interdisciplinary Research: A Polyocular Framework for Wicked Problems*. *Constructivist Foundations*, V10, N1, pp 65-76.

"The paper outlines a perspectivist (constructivist) understanding of interdisciplinarity, and discusses how interdisciplinary research should be pursued. It is accompanied by commentaries by Rick Szostak, Bernard Callebaut, Steve Fuller, Michael HG Hoffman, and Robert Drury King, and a response by the authors." (rs)

McGregor S L T (ed) 2014. *Transdisciplinarity (Special Issue)*. World Futures, V70, N3-4, pp 161-265.

"In this special issue, Basarab Nicolescu recommends a methodology for transdisciplinarity. Other authors discuss how one becomes a transdisciplinary scholar, conceptual change, and transdisciplinary leadership." (rs)

Ukowitz M 2014. *Auf dem Weg zu einer Theorie transdisziplinärer Forschung // Towards a Theory of Transdisciplinary Research*. GAIA - Ecological Perspectives for Science and Society, V23, N1, pp 19-22.

Pohl C 2014. *A theory of transdisciplinary research for whom? Eine Theorie transdisziplinärer Forschung für wen?* GAIA - Ecological Perspectives for Science and Society, V23, N3, pp 216-220.

"I recommend both articles (Pohl's article is a direct response to Ukowitz' contribution) because they demonstrate why transdisciplinary research needs a theoretical foundation and how this can be achieved. Besides, they briefly summarize the current state of research on a theory of transdisciplinarity." (us)

[» back to content](#)

Problem framing

Wuelser G 2014. *Towards adequately framing sustainability goals in research projects: the case of land use studies*. Sustainability Science, V9, N3, pp 263-276.

"This paper provides guidance to researchers for identifying an adequate conception of sustainable development to refer to in a specific project. It draws on an in-depth qualitative empirical analysis of how researchers deal with the issue as well as on philosophically well-grounded general requirements for appropriate sustainability conceptions. The guidelines can be adapted to transdisciplinary research projects that refer to other normative societal concerns." (gw)

[» back to content](#)

Problem orientation of research

Dressel G, Berger W, Heimerl K, Winiwarter V (eds) 2014. *Interdisziplinär und transdisziplinär forschen. Praktiken und Methoden*. Bielefeld: transcript Verlag.

"Inter- and transdisciplinary research is oriented towards societal problems. This publication provides insights into the challenges connected with this approach. The researchers leave the secure terrain of academic disciplines. Their expertise is relativized, methodological unknown territory is pioneered.

Based on thirty years of experience the contributions focus on research practice and reflect how projects start, proceed and end. The volume closes a gap in German speaking literature and gives orientation as to how inter- and transdisciplinary project teams can work successfully." (kh)

Groß M, Stauffacher M (eds) 2014. *Transdisciplinary Environmental Science: Problem-oriented Projects and Strategic Research Programs (Special Issue)*. Interdisciplinary Science Reviews, V39, N4, pp 299-398.

"This special issue seeks to offer a critical and constructive contribution to the many debates on transdisciplinary problem solving by drawing on the particular experience of researchers within the German Helmholtz Association (HA) and its numerous partners all over the world. This experience is especially useful given that the Helmholtz Association is not only Germany's largest scientific research organization (with Max Planck in second place) but, unlike basic research oriented institutions (most universities), its official mission is to solve the grand challenges of society, science, and industry by means of research conducted in so called problem-oriented strategic programs. The articles in this issue cover topics ranging from the management of contaminated sites, local knowledge within biodiversity research, and water resources management." (mg)

[» back to content](#)

Participation

Akpo E, Crane T A, Vissoh P V, Tossou R C 2014. *Co-production of Knowledge in Multi-stakeholder Processes: Analyzing Joint Experimentation as Social Learning*. The Journal of Agricultural Education and Extension, pp 1-20.

"An example of radical co-production of knowledge standing on the last step of Arnstein's (1969) ladder of participation (citizen control). The project is about how to improve the Benin oil palm seed system. The societal actors decide amongst others where to have the test fields and what to see as an adequate measure of growth/success." (cp)

Goldschmidt R 2014. *Kriterien zur Evaluation von Dialog- und Beteiligungsverfahren. Konzeptuelle Ausarbeitung eines integrativen Systems aus sechs Metakriterien*. Wiesbaden: Springer VS.

"This book is the first comprehensive analysis of quality and evaluation standards and their empirical operationalization for participatory projects and programs. It combines sociological, psychological, economic and statistical insights into a truly interdisciplinary representation of present knowledge. It is a comprehensive guidebook for all theorists and practitioners of public participation." (or)

Wiek A, Talwar S, O'shea M, Robinson J 2014. *Toward a methodological scheme for capturing societal effects of participatory sustainability research*. Research Evaluation, V23, N2, pp 117-132.

"This paper consolidates existing impact studies with stakeholder experience for a) more comprehensively seizing and categorizing the impacts of transdisciplinary research for sustainable development, as well as b) exploring which features of participatory research processes relate to the respective societal effects. It provides a framework as well as a methodological approach for conducting impact studies and thus helps to more systematically capture the effects attributable to a research project." (gw)

von Unger H 2014. *Partizipative Forschung. Einführung in die Forschungspraxis*. Wiesbaden: Springer VS.

"The monograph introduces concepts, experiences, problems and fields of application of participatory, qualitative research in social sciences. It describes different approaches to participatory research as well as methodological groundings and explores the core principles of participatory research practice. Examples of good practice provide support for the readers so they will improve their capacity to plan, implement and use their own research projects." (kh)

[» back to content](#)

Knowledge exchange

Olmos-Peñuela J, Castro-Martínez E, D'Este P 2014. *Knowledge transfer activities in social sciences and humanities: Explaining the interactions of research groups with non-academic agents*. Research Policy, V43, N4, pp 696-706.

"The aim of this research is to achieve a better understanding of the processes underlying knowledge transfer (KT) in social sciences and humanities (SSH). The paper addresses: first, the extent of SSH research groups' engagement in KT and the formal KT activities used to interact with non-academic communities; and second, how the characteristics of research groups may influence engagement in various types of KT." (fd)

[» back to content](#)

Inter- and transdisciplinary research methods

Moschitz H, Home R 2014. *The challenges of innovation for sustainable agriculture and rural development: Integrating local actions into European policies with the Reflective Learning Methodology*. Action Research, V12, N4, pp 392-409.

"This paper is interesting for all who are working in European (or potentially other inter-cultural) projects. Such projects face a double challenge: First, they aim at implementing transdisciplinary research at local level, so they need to deal with all implications in the specific cases. Second, they require reflection of the local experiences at project level, thus spanning across different cases, countries, and cultures. The methodology presented in this paper discusses these challenges and suggests a new approach to overcome them. The methodology was tested in an European research project aiming at up-scaling from local learning and innovation networks to a regional, in this case European, support framework for innovation in sustainable agriculture." (hm)

Ruppert-Winkel C, Hauber J, Stablo J, Kress M 2014. *The World Café as an Instrument for Integration in Transdisciplinary Sustainability Research*. GAIA - Ecological Perspectives for Science and Society, V23, N3, pp 243-252.

"This paper perfectly exemplifies how progress in transdisciplinary research can be promoted. This paper shows how a vague method is specified according to a set of criteria and it assesses whether and to which extent this method is appropriate for the purpose at hand." (gh)

"This article analyzes how the World Café can be applied for knowledge integration in the phase of problem framing in transdisciplinary research: In the project *Renewable Energy Regions (EE-Regionen)* the instrument was used to connect different groups of people (scientists and local actors from politics, business, conservation), and integrate their ways of thinking and types of knowledge. The collaboration created positive impulses for local actors as well as scientists, and laid the foundation for productive transdisciplinary work in the following project phases; I thus recommend the article as best practice example for transdisciplinary research." (us)

[» back to content](#)

Education for inter- and transdisciplinary research

Wiek A, Xiong A, Brundiers K, Leeuw S V D 2014. *Integrating problem- and project-based learning into sustainability programs*. International Journal of Sustainability in Higher Education, V15, N4, pp 431-449.

"Aiming to offer experience-based guidance for sustainability programs in higher education around the world, this article describes the problem- and project-based learning (PPBL) program and the institutional context at Arizona State University's School of Sustainability (SOS). Students' ability to work in transdisciplinary settings is one of the key elements of a PPBL-program in sustainability." (kb)

[» back to content](#)

Biographies of TD researchers

Stokols D 2014. "Training the next generation of transdisciplinary researchers". In O'Rourke M, Crowley S, Eigenbrode S D, Wulfhorst J D (eds). *Enhancing Communication & Collaboration in Interdisciplinary Research*, pp 56-81. Thousand Oaks, California: SAGE Publications.

"This chapter offers a conceptualization of transdisciplinary orientation as a personal disposition to engage in integrative and innovative TD scholarship and practice. Key dimensions underlying the TDO include certain foundational values, beliefs, attitudes, behaviors, and the individual's analytic stance in approaching complex scientific and societal problems. Misra, Stokols, et al. are currently evaluating a questionnaire scale to assess TDO, and changes in TDO over time." (ds)

Fitzgerald D, Littlefield M M, Knudsen K J, Tonks J, Dietz M J 2014. *Ambivalence, equivocation and the politics of experimental knowledge: A transdisciplinary neuroscience encounter*. Social Studies of Science, V44, N5, pp 701-721.

"This article describes the experience of the authors who participated in an international, transdisciplinary collaboration. It takes a refreshingly candid view of some of the challenges of such collaborations." (cl)

[» back to content](#)

Team science

Stipelman B A, Hall K L, Zoss A, Okamoto J, Stokols D, Börner K 2014. *Mapping the impact of transdisciplinary research: A visual comparison of investigator-initiated and team-based tobacco use research publications*. *Journal of Translational Medicine & Epidemiology*, V2, N2, 1033.

"The reported study used a scientific mapping technique to compare the substantive foci of publications produced by members of a TD center-based initiative with two matched sets of traditional investigator-initiated grants in the same field. Publication data obtained from two National Institutes of Health (NIH) databases for all three groups were overlaid onto the University of California, San Diego (UCSD) Base Map of Science. The resulting visualizations revealed that the publications from the TD research centers spread across the topical map of science more rapidly and more comprehensively than both comparison groups." (ds)

Vogel A L, Stipelman B A, Hall K L, Nebeling L, Stokols D, Spruijt-Metz D 2014. *Pioneering the transdisciplinary team science approach: Lessons learned from National Cancer Institute grantees*. *Journal of Translational Medicine and Epidemiology*, V2, N2, 1027.

"The research reported in this article reports an interview-based evaluation of scientists and trainees' experiences while participating as members of the US National Cancer Institute's Transdisciplinary Research in Energetics and Cancer (TREC) centers. The study highlights key facilitators of and constraints on effective TD collaboration within the TD Centers." (ds)

[» back to content](#)

Perspectives from the arts and design

Spinelli S, McGowan H (eds) 2014. *Disrupt Together. How Teams Consistently Innovate*. New Jersey: Pearson Education.

"A breakthrough transdisciplinary, team-based approach to innovation that integrates business, design and engineering." (fd)

[» back to content](#)

Transdisciplinarity in action: projects and case studies

Amon B, Winiwarer W, Anderl M, Baumgarten A, Dersch G, Guggenberger T, Hasenauer H, Kantelhardt J, Kasper M, Kitzler B, Moser T, Pötzelsberger E, Prosenbauer M, Schaller L, Schröck A, Sigmund E, Zechmeister-Boltenstern S, Zethner G 2014. *"Farming for a Better Climate (FarmClim)" Design of an Inter- and Transdisciplinary Research Project Aiming to Address the "Science-Policy Gap"*. *GAIA - Ecological Perspectives for Science and Society*, V23, N2, pp 118-124.

"The transdisciplinary research project FarmClim aims at contributing to a more considerate use of nitrogen in Austrian agriculture and attempts to tackle the "science-policy gap" by using a participatory approach. The design report describes the project design and successful communication processes, thus contributing to a common knowledge base of transdisciplinary project know-how." (tm)

Espinosa Martinez A C 2014. *Abrir los saberes a la complejidad de la vida - Nuevas prácticas transdisciplinarias en la universidad*. Puerta Vallarta, Mexico: CEUArkos. (in Spanish).

"This book synthesizes the transdisciplinary experience of Centro de Estudios Universitarios Arkos, México and it is written by the Vice Principal of the university, based on her PhD thesis. It presents a meta-analysis of the collective research done by the university actors, its results and implications. Shows a detailed analysis of what could be called the pedagogy for a transdisciplinary education of CEUArkos, including the methodology of transdisciplinary-research-action." (bn)

Huber R, Rigling A 2014. *Commitment to Continuous Research Is a Key Factor in Transdisciplinarity. Experiences from the "Mountland" Project*. GAIA - Ecological Perspectives for Science and Society, V23, N3, pp 256-262.

"The article presents the framework and main results of the project Mountland, which received the td-award 2013. It investigates the impacts of climate and land-use changes on ecosystem processes in three Swiss mountain regions, building on policy integration, network governance and integration of stakeholders. It convincingly presents a best practice example of transdisciplinary research in sustainability science." (tm)

Polk M 2014. *Achieving the promise of transdisciplinarity: a critical exploration of the relationship between transdisciplinary research and societal problem solving*. Sustainability Science, V9, N4, pp 439-451.

"A critical comparison of the claims of transdisciplinary research and the achievements of five transdisciplinary projects in Gothenburg, Sweden. The analysis provides important insights for a down-to-earth understanding of transdisciplinary research." (cp)

Vukotich C J Jr., Cousins J, Stebbins S 2014. *Building sustainable research engagements: lessons learned from research with schools*. Journal of Research Practice, V10, N1, Article M1.

"This article reports on a real experience of engaged research. It draws out a number of useful insights on developing sustainable research engagement with schools in the US. It highlights ethical and practical concerns that researchers need to address while developing engagement with community organisations such as schools." (dd)

Zinsstag J, Perrig-Chiello P, Paulsen T, Truffer B (eds) 2014. *Best practice in transdisciplinary research – Swiss "td-award" winners 2013 (Special td-award)*. GAIA - Ecological Perspectives for Science and Society, V23, N3, pp 253-277.

"I like this special issue because it presents actual transdisciplinary projects. The discipline of transdisciplinarity must become braver in moving out of the ivory tower" (ck)

[» back to content](#)

Environmental humanities

Emmett R, Zelko F (eds) 2014. *Minding the Gap: Working Across Disciplines in Environmental Studies*. RCC Perspectives, N 2, Rachel Carson Center, Munich.

"This open-access publication (available free via environmentandsociety.org) discusses the theory, practice, and institutional incentives for multi-, inter-, and transdisciplinary research in environmental studies. Basarab Nicolescu, opens the discussion with a brief introduction to his axiomatic approach to the methodology of transdisciplinarity. Contributions from scholars in economic history, political theory, geography, film and literary studies, environmental history, anthropology, and postcolonial studies then reflect on decades of experience among humanities researchers who engage in problem-focused environmental research with social and natural scientists." (bn)

Bergthaller H, Emmett R, Johns-Putra A, Kneitz A, Lidström S, Mccorristine S, Pérez Ramos I, Phillips D, Rigby K, Robin L 2014. *Mapping Common Ground: Ecocriticism, Environmental History, and the Environmental Humanities*. Environmental Humanities, N5, pp 261-276.

"Environmental research needs a stronger footing in the humanities. This article presents the three strongest current environmental research movements in the humanities: ecocriticism, environmental history, and the environmental humanities" (ck)

Forêt P, Hall M, Kueffer C 2014. *Developing the Environmental Humanities: A Swiss Perspective*. GAIA - Ecological Perspectives for Science and Society, V23, N1, pp 67-69.

"This opinion paper documents the emergence of the Environmental Humanities worldwide and in Switzerland and identifies potentials of this new transdisciplinary movement for more integrative and effective environmental research". (ck)

Rosenberger M 2014. *Die Ratio der "Klima-Religion". Eine theologisch-ethische Auseinandersetzung mit klimaskeptischen Argumenten // The Reason of "Climate-Religion" A Theological-Ethical Critique of Climate Skeptical Arguments*. GAIA - Ecological Perspectives for Science and Society, V23, N2, pp 93-99.

"Rosenberger analyzes religious-philosophical arguments against climate protection put forth by climate skeptics. The pioneering article is a stimulating example for interdisciplinary exchange." (tm)

[» back to content](#)

Sustainability science

Huutoniemi K, Tapio P (eds) 2014. *Transdisciplinary Sustainability Studies. A Heuristic Approach*. Abingdon, Oxon: Routledge.

"Petri Tapio and Katri Huutoniemi edited a series of articles dealing with transdisciplinary sustainability research and its specific heuristics. Interesting for scholars who want to further explore the epistemic particularities of this form of research." (cp)

[» back to content](#)

Risk

Klinke A, Renn O 2014. *Expertise and experience: a deliberative system of a functional division of labor for post-normal risk governance*. Innovation: The European Journal of Social Science Research, V27, N4, pp 442-465.

"This article is a refinement of the IRGC risk governance model and includes regulatory management issues with insights from the social sciences, decision sciences and political analysis. It provides an analytical as well as normative framework for dealing with complex decisions under uncertainty and ambiguity. It represents a state-of-the art analysis of institutional requirements for coping with modern systemic risks." (or)

[» back to content](#)

Information technology

De Beer S 2014. *Michel Serres' multidisciplinary philosophy of information and knowledge*. TD: The Journal for Transdisciplinary Research in Southern Africa, V10, N1, pp 19-36.

Gruner S 2014. *On the historical semantics of the notion of software architecture*. TD : The Journal for Transdisciplinary Research in Southern Africa, V10, N1, pp 37-66.

Habron J 2014. *"Through music and into music", through music and into well-being : Dalcroze eurhythmics as music therapy*. TD : The Journal for Transdisciplinary Research in Southern Africa, V10, N2, pp 90-110.

"Three articles published in 2014 in Td The Journal for Transdisciplinary Research in Southern Africa suggest; there is a growing awareness of td amongst IT specialists experimenting across disciplinary boundaries; philosophically, French thinking shapes some local transdisciplinary work; and, music scholars appear to be interested in using Dalcroze techniques to participate in transdisciplinary research projects." (jt)

[» back to content](#)

Psychology

Chancer L, Andrews J (eds) 2014. *The Unhappy Divorce of Sociology and Psychoanalysis. Diverse Perspectives on the Psychosocial*. Basingstoke: Palgrave Macmillan.

"This book highlights the commonality of interest between sociology and psychoanalysis. It points out how research conventions in these two areas have divided the fields, to the detriment of knowledge as well as practice. It offers various ways the two fields can come together in interdisciplinary approaches." (dd)

[» back to content](#)

Contributors

Katja Brundiers (kb), Frédéric Darbellay (fd), D. P. Dash (dd), Rico Defila (rd), Robert Frodeman (rf), Matthias Groß (mg), Katharina Heimerl (hh), Gertrude Hirsch (gh), Christoph Kueffer (ck), Catherine Lyall (cl), Tobias Mickler (tm), Heidrun Moschitz (hm), Basarab Nicolescu (bn), Christian Pohl (cp), Ortwin Renn (or), Ulrike Sehy (us), Dan Stokols (ds), Rick Szostak (rs), Johann Tempelhoff (jt), William Newell (wn), Gabriela Wülser (gw)

[» back to content](#)