A Tour d’Horizon of Literature Related to (Inter- and) Transdisciplinarity Published in 2011

Each year the td-net invites experts of (inter- and) transdisciplinary research to inform us about important recent publications in the area of (inter- and) transdisciplinarity (see list of contributors). This document is a bibliography of new literature published in 2011. The list also includes short annotations by the experts on why they recommend these books or essays to the scientific community.

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

You can find more information about the bibliography at http://www.transdisciplinarity.ch/e/Bibliography/
Overview & synthesis documents


"Der Sammelband enthält Beiträge zweier wissenschaftlicher Veranstaltungen in Berlin und Karlsruhe. Inter- und Transdisziplinarität wird im Kontext von Bildung, Forschung und Entwicklung thematisiert. Das Buch enthält theoretische Reflexionen und Beispiele aus der Forschungspraxis." (mu)


"This article reports the findings from a concept mapping study of current and emerging research foci in the science of team science and suggests new directions for theory development and empirical investigation based on these findings." (ds)


"This is the first book in Russian, which systematically analyzes the history of transdisciplinarity, the main theoretical approaches and opportunities transdisciplinarity in solving actual complex problems. Emphasis is placed on transdisciplinary strategies in education, health system and sustainable development. It also reveals the possibility of transdisciplinary methodology in the "risk society". (eg)


"The second edition is fully revised and now devotes at least one entire chapter to each step in the interdisciplinary research process. For each step, helpful strategies or guidelines are outlined and examples of their use from across the humanities, social sciences, and natural sciences are provided. It is useful both as a textbook and as a guide for more senior researchers." (rs)

"James Welch IV has undertaken the formidable task of showing how the idea of interdisciplinarity has arisen from, and is a response to, the key epistemological strategies of the Western philosophical canon. His goal is to situate interdisciplinarity in the History of Ideas and begin to lay the foundation for a philosophically grounded theory of interdisciplinarity that addresses complexity, integration, and disciplinary negotiation." (rs)

Concepts of inter- and transdisciplinarity


“In dem Beitrag entwickelt und begründet die Autorin das Konzept (und Ideal) eines neuen Wissenstypus, der insbesondere im Kontext der gesellschaftlichen Verhandlung moderner Risikokonflikte an Bedeutung gewinnen könnte (und sollte).” (mp)


“This book makes sense of the research laboratory as a multidisciplinary team interacting with each other, with theory, and with artifacts, thus dismantling the rational core of scientific practice. It illustrates how social, personal, and cognitive processes are interwoven in scientific thinking. It analyses the research and learning process in two biomedical engineering laboratories to provide an integrated account of the "acting person as scientist." “ (gd)


“The article builds on a notion of transdisciplinarity as enquiry-driven research to highlighting everyday human bodily engagements with the flora.” (mg)

Post-normal science


“Controversial decisions in land management and urban development, risk assessment of emerging technologies such as agri-biotechnology or mobile communication technology and activist environmental science challenge traditional expert systems. Such challenges, associated with potentially high risks, fundamental uncertainties and adverse interests, have already been outlined by Silvio Funtowicz and Jerry Ravetz about twenty years ago. This collection of papers relates current situations to the earlier epistemological outlines and procedural recommendations.” (kk)
**Perspectives from the arts and design**


"Following the integration of artistic disciplines within the university, artists have been challenged to review their practice in academic terms. This has become a vigorous epicentre of debates concerning the nature of research in the artistic disciplines. The special issue offers an overview of the current stage in the development of artistic research, demonstrating how the creative practice of artists can contribute to scientific and professional work in different fields." (dd)


"This article offers certain key ideas towards integrating insights from a variety of applied disciplines. Developing robust processes for sustainable improvements in practical domains has not been easy. This challenge is addressed differently in different areas, such as social policy, economics, therapy, management, architecture, and design, leading to a number of useful responses. A common characteristic of such responses is the inclusion of "non-observational experiences" in the research process." (dd)

**Problem orientation**


**Integration**

Inter- and transdisciplinary research methods


“The Drivers–Pressures–State Changes–Impacts–Responses (DPSIR) framework is used to assess and manage the impact of policy changes and associated problems; however, a change is evident in the recent applications of the approach: an expert-driven, evidence-focussed mode of use is giving way to the use of the framework as a heuristic device to facilitate engagement, communication and understanding between different stakeholders.” (dd)


“A very practice-oriented book that gives insights in transdisciplinary methodology. It clearly points out the challenges td-research has to deal with within academia and the authors give tips how researchers could arrange themselves in this environment.” (mu)


“Gelingende interdisziplinäre Zusammenarbeit ist eine wichtige Voraussetzung für erfolgreiche transdisziplinäre Projekte. Der Video-Beitrag gibt Einblick in die Dynamiken interdisziplinärer Kooperation von technik- und sozialwissenschaftlichen ForscherInnen.” (mu)

Evaluation of inter- and transdisciplinary research


“The working paper discusses the question of how to evaluate inter- and transdisciplinary research proposals. It suggests that elaborated concepts of and approaches to synthesis and integration are signs of high quality.” (cp)


“The paper elaborates a transdisciplinary research process as an encounter of different thought-collectives and their individual thought-styles, based on the theory of Ludwik Fleck. It discusses what the different thought-collectives involved would see as progress or success of a transdisciplinary project.” (cp)
Institutions for transdisciplinary research


“The article is written by experts involved in invasive species management in seven mountain regions distributed around the world. It illustrates how local expertise can be aggregated to address a global problem and highlights that local implementations of a global strategy must be tailored to different social and ecological contexts. Networking local transdisciplinary case studies globally may be increasingly needed to approach many multi-scale problems.” (ck)


Education for inter- and transdisciplinary research


“The paper is co-authored by several professors from quite different disciplines who have cooperated over four years in developing a graduate-level course at the University of Idaho on interdisciplinary methods as part of their program on water resource issues. The course problem is how to promote a sustainable water future and is designed to prepare students for team-based interdiciplinary research.” (rs)


“Simeon Dreyfuss discusses the importance for interdisciplinary analysis of “holding in relationship different ways of knowing.” The paper illustrates this point by discussing how he uses a particular poem in interdisciplinary teaching, how students respond to it, and the useful lessons that emerge from that conversation.” (rs)

Gardner S K 2011. A jack of all trades and a master of some of them: successful students in interdisciplinary PhD programs. Issues in Integrative Studies, V29.

“Susan K. Gardner reports the results of a series of interviews with students enrolled in an interdisciplinary PhD program and with their faculty supervisors.” (rs)


“Jennifer Manthei and Jonathan Isler explore the challenges of teaching a methods course that spans anthropology and sociology. They thus confront one of the key interdisciplinary challenges: how best to conceive (and communicate to students) the relative advantages and disadvantages of different methods.”


“This chapter examines the distinguishing features of transdisciplinary approaches to undergraduate, graduate, and post-graduate training in the health sciences.” (ds)
Tour d'Horizon 2011, td-net Bibliography

Participation


"Reflects on the politics of the method of participatory ELSA-research and analyses how different methodical settings allow for different representations of science and society. The paper discusses how settings open up different possibilities to think and talk about a given topic, how citizens and scientists 'inhabiting' these settings accept or rearrange given structures, and how participants relate the discussed experiments to broader dynamics of the governance of techno-scientific developments in the framework of a given techno-political culture." (mom)


Science-policy interface


"In dem Beitrag entwerfen die Autoren ein Modell wissenschaftsbasierter Politikberatung, das sie dann auf den Fall umweltpolitischer Ressortforschung anwenden. Der Beitrag liefert eine innovativ-provokative Sichtweise - insbesondere in Bezug auf den "Mainstream" des td-Diskurses -, weil die Autoren eine sehr strategisch, Interessenbezogene Perspektive einnehmen." (mp)


"Der Beitrag beschreibt, wie das niederländische Pendant eines Umweltbundesamtes den Wandel von einer technokratischen Politikberatungseinrichtung zu einem an Prinzipien von Partizipation und Reflexivität orientierten Akteur vollzogen bzw. in Angriff genommen hat." (mp)
Knowledge exchange


“Looks at an intriguing development that is taking place in several European science museums: the move of university research laboratories into the space accessible to visitors. Seen as a means to encourage the public understanding of research such laboratories-in-the-museum have been set up in museums in Munich, Berlin, Milan and Gothenburg. The paper examines the changes that the laboratory undergoes through this relocation: a transformation of its social and material architecture and a change in, and multiplication of, the roles of researchers.” (mom)


“Der Artikel gibt eine gute Einsicht in die Entwicklung des Verständnisses von Prozessen der Wissens-Integration und Innovation in der international führenden Gruppe im Bereich „rural extension“, welche von Röling aufgebaut wurde.” (ak)

Social learning


“This paper discusses the application of causal loop modelling in establishing ‘learning laboratories’ for sustainable development. The model built through this approach can serve as a platform for learning and research collaboration. The role and importance of systems thinking methodology and applications to deal with ever-increasing complexities of sustainable development are discussed.” (dd)


Complexity

**Systems analysis approaches**


"In this special issue the term "social systems" is derived chiefly from the theoretical starting point propounded by Niklas Luhmann (1995). All articles present a discussion of the issues, questions and challenges related to the application of in the broader sense systemic research designs using qualitative methods in management studies, both in reference to theoretical approaches, as well as to the research practice. Authors demonstrate how management science can benefit from viewing organizations through a "systemic lens." Furthermore, attention is drawn to the limitations and constraints of using systems theory for the study of phenomena in organizations as social systems." (pw)

**Transdisciplinarity in the making: Case examples of TD research**


"I recommend this publication because it proposes a multi-stakeholder approach that brings together people from the worlds of business, policy, science and societal organisations to address some of today's most urgent challenges. It provides practical guidelines, many examples and a set of concrete tools. It also provides a background to the current pleas for new approaches from the perspectives of business (e.g. co-creation), policy (e.g. deliberative governance), science (e.g. transdisciplinary research) and societal organisations (e.g. collaborative practices) that appear remarkably similar." (br)


"The book provides several detailed case studies in the application of the interdisciplinary research process (as outlined in Repko's book) across various fields. Introductory and concluding chapters place these case studies in the context of the wider literature on interdisciplinary and transdisciplinary research, and suggest paths for future research." (rs)
Risk research


Technology assessment


"Risk assessment of emerging technologies such as agri-biotechnology or mobile communication technology challenges traditional expert systems. Such challenges, associated with potentially high risks, fundamental uncertainties and adverse interests, have already been outlined by Silvio Funtowicz and Jerry Ravetz twenty years earlier. This paper relates the current situation to these earlier epistemological outlines and procedural recommendations." (kk)


"This collection of essays on emerging technologies - from energy technologies to ubiquitous computing, nanotechnology and synthetic biology - contributes to current discussions about the conceptualisation and governance of the new technosciences. The renowned authors stem from various disciplinary contexts and present valuable insights into the current state of the art of analysing and debating ongoing technoscientific developments." (kk)


"Volta ist die Zeitschrift zum EU-Projekt PACITA. PACITA ist ein Europäisches Projekt welches das interdisziplinäre Konzept der Technologiefolgen-Abschätzung in Europa verstärken will." (sb)


"This reader results from the annual international conference of the S.NET-society in Darmstadt in 2010. Characterising, analysing and discussing the governance of nanotechnology with a view to new conceptual, analytical and procedural approaches represent the focus of this compilation of essays." (kk)
Technoscience


Urban studies


Landscape research


Stokols D 2011. Transdisciplinary action research in landscape architecture and planning: prospects and challenges. Landscape Journal, V30, N1, pp 1-5. “This is the introductory article for a special issue of the Landscape Journal focusing on applications of transdisciplinary action research principles to the analysis and management of local and global ecosystems.” (ds)
Ecology


“The article formulates a framework for socioecological research that is meant to be the fundament of strategic activities and research agenda setting of the Ecological Society of America (ESA) in the area of sustainable development. It succeeds ESA's "Sustainable Biosphere Initiative" of the early 1990s.” (ck)


“In invasive species research and management, the year 2011 was characterised by a sudden outbreak of vigorous debates about appropriate framings of this complex environmental problem, and this publication stands exemplarily for the debate. The debate illustrates the need for transdisciplinary approaches in situations where science, policy, and values are closely entangled; and how things may go wrong without transdisciplinarity.” (ck)


“Although the article does not focus on transdisciplinarity in the first place, its unique approach to studying the interface between society and nature with reference to changes in plant biodiversity in settlements using the sociological concept of style, the methodological implications for the study of transdisciplinarity in social-ecological systems appear of upmost importance.” (mg)

Sustainability science


“Research papers covering ecological economics, technology assessment and social studies of science are compared along specified characteristics of transdisciplinary sustainability science (such as interdisciplinarity, participatory methods and problem orientation / policy advice). Based upon this empirical comparison the contribution of each of the three fields to sustainability science and its societal roles are discussed.” (kk)
Sustainability and culture


“Ausgehend von einer inter- und transdisziplinären Begleitstudie greift die Autorin Themen auf, die seitens der Praxis tabuisiert werden und auch in der wissenschaftlichen Diskussion wenig Beachtung finden. So geht sie u. a. der Frage nach, inwieweit gesellschaftspolitische Veränderungen Einfluss auf gegenwärtige Konzepte der Nachfolge haben und welche Nachhal(l)tigkeit Traditionen zugesprochen wird.” (mu)

Edgar Morin


Tourism research


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