Interdisciplinary International Graduate Summer School

Miramar Palace, Donostia-San Sebastián, July, 6-10, 2026

The impacts of digitalization on science and society in the quest for more sustainable futures

Call for Papers

The PRAXIS research group at the University of the Basque Country UPV/EHU, the Institute for Technology Assessment and Systems Analysis (ITAS, KIT Karlsruhe) and the The Käte Hamburger Kolleg: Cultures of Research at RWTH Aachen University will host an International Summer School for PhD students, titled *"The impacts of digitalization on science and society in the quest for more sustainable futures"*. The Summer School is part of the 45th edition of the UPV/EHU Summer Courses in Donostia-San Sebastián.

Keynote lecturers of the Summer School

Prof. Dr. Gabriele Gramelsberger, Käte Hamburger Kolleg Cultures of Research RWTH Aachen University, Germany

Prof. Dr. Harro van Lente, full professor of Science and Technology Studies at the Faculty of Arts and Social Science, Maastricht University, The Netherlands

Prof. Dr. Stefano Balbi, Basque Centre for Climate Change (BC3) and IKERBASQUE - Basque Foundation for Science, Basque Country (Spain)

Presentation

Science has been significantly shaped by digitalization over the past decades, affecting multiple levels of research and practice – knowledge production, methodology, cultures of collaboration, science-society interactions and, finally, the very idea of science as such (Storey and Baskerville 2025). Multiple transformations in science are occurring, *e.g.* via data science tools, research software, modelling tools, AI tools, data ecosystems or other digitalized research tools and infrastructures. This is significant not only for data generation and data processing, but also for knowledge production itself (OECD 2020). For instance, new digital technologies such as digital twins (future labs) are claimed to revolutionize sustainability research and planning (Garske *et al.* 2024). However, new digital technologies should not simply be conceived as tools for enhancing the scope and speed of scientific knowledge production, collaboration, communication and interaction. There are also wicked relationships with other fields of society (*e.g.*, policy, citizens) emerging (Hocquet *et al.* 2024).

In that respect, recent discussions increasingly recognize that digitalization should support broader social and cultural changes—especially socio-ecological transformations—that aim to lead societies toward a more sustainable future (*e.g.*, Koundouri *et al.* 2023). However, the specific importance of new digital technologies and innovations—alongside other societal changes and developments—remains largely unclear and is rarely the subject of thorough investigation (Steig *et al.* 2025; Westerlaken 2024). A widespread optimism can be observed regarding the potential and ability of digitalization in the face of urgent socio-ecological problems such as the climate crisis and growing social injustice worldwide (Mouthaan *et al*. 2023; Tabe-Ojong *et al*. 2024). Yet critical questions remain: what are the actual contributions and the intended and unintended impacts of digitalization on science and on science-society interactions within these complex and long-term socio-technical change processes? To what extent can

digitalization truly be considered an enabler of a sustainable future?

The transformative effects of the digitalization of science are evident at various levels, but its interactions with, and future impacts on, the broader socio-cultural transformations of science and society remain largely unknown and call for further research. Accordingly, the summer school will focus on the following key topics:

1. Transformations in scientific knowledge production through digitalization
2. Transformations of scientific cultures in everyday practices
3. Transformations of science-society interactions in transdisciplinary and transformative research through real-world experiments using digital twins
4. Concepts and methodologies for the assessment and governance of digital transformation activities
5. Varieties of knowledge production and their transformation through digitalization worldwide

The Summer School invites PhD-researchers worldwide from a broad range of Humanities, Social Studies and Cultural Studies, Science & Technology Studies (STS) and Technology Assessment (TA) and other inter- and transdisciplinary approaches such as policy-, sustainability- and transformative-research, which address the interrelations of digitalization of science and socio-cultural transformations.

References

Garske B.; Holz, W.; Ekardt, F. (2024). Digital twins in sustainable transition: exploring the role of EU data governance. *Frontiers in Research Metrics and Analytics*, 9, article 1303024.

Hocquet, A.; Wieber, F.; Gramelsberger, G. *et al*. (2024): Software in science is ubiquitous yet overlooked. *Nature Computational Science*, 4, 465-468.

Koundouri, P.; Landis, C.; Plataniotis, A. (2023). *Contribution of Digitalization to the Sustainable Development in Europe* (JRC134441). Seville: European Commission.

Mouthaan, M., Frenken, K., Piscicelli, L., & Vaskelainen, T. (2023). Systemic sustainability effects

of contemporary digitalization: A scoping review and research agenda. *Futures*, 149, article 103142.

OECD (2020). *The Digitalisation of Science, Technology and Innovation: Key Developments and Policies*. Paris: OECD Publishing.

Steig, F.; Koenig, P. D.; Marquardt, J.; Oels, A., Radtke, J.; Rehak, R.; Weiland, S. (2025). Sustainability powered by digitalization? (Re-)politicizing the debate. *Sustainability: Science, Practice and Policy*, *21*(1), article 2521181.

Storey, V. C.; Baskerville, R. L. (2025). Digitalization of the natural sciences: Design science research and computational science. *Decision Support Systems*, 189, article 114368.

Tabe-Ojong, M. P. Jr., Salama, Y., Abay, K. A. *et al*. (2024). Harnessing digital innovations for climate action and market access: Opportunities and constraints in the CWANA region. *Global Food Security*, 41, article 100763.

Westerlaken, M. (2024). Digital twins and the digital logics of biodiversity. *Social Studies of Science*, *54*(4), 575-597.

Concept

The Summer School provides PhD students with the opportunity to develop their projects in a stimulating working atmosphere and in an international context. We aim at an inspirational environment for learning and discussion that ensures excellent feedback on everyone's work. In formats such as "Lecture", "Individual Presentation" and "Workshop", a varied intellectual experience shall be created. At the same time, Donostia-San Sebastián provides participants with the opportunity for a week of relaxed interchange, discussion and networking with experienced scholars and other PhD students.

- ***Lecture:*** Established scholars will present their basic positions in lectures.
- ***Individual Presentation:*** This format is designed to maximize feedback for the paper givers via a structured World Café Format. Each paper will receive feedback from every attendee as well as from the senior scholars.
- ***Workshop:*** In a workshop, problems of relevance to the work of the PhD students will be addressed and discussed in small groups. Each group will be chaired by a researcher with considerable experience in the relevant

field. In this intense format, the students will be able to submit and discuss their own concrete problems.

The language of the Summer School will be English. On successful completion of the Summer School, the graduate will receive a certificate of attendance.

Registration

The Summer School is open to PhD students at various stages of progress in their dissertation project. Please apply by sending us, at the latest by February 15th 2026, an abstract of max. 3.000 characters outlining your PhD project and in particular the background to the problem discussed, research questions as well as the methods and theoretical approaches to be adopted, together with a CV.

Please send your application to Bettina-Johanna.Krings@kit.edu. Applicants will receive notification of acceptance by February 20th 2026.

Participation in the course is free of charge. Unfortunately, the organizers cannot cover any travel or accommodation costs. We would like to draw your attention to national sponsorship institutions like the DAAD (German Academic Exchange Service) in the case of Germany, who offer training course scholarships for students. In some cases, there might be the option of sponsorship by KIT (KHYS). Please contact your university's international office for further information on scholarships available in your country.

Further information:

https://www.itas.kit.edu/projekte_sche10_rigss.php

Organizers: Stefan Böschen (RWTH/Käte Hamburger Kolleg Cultures of Research), Bettina-Johanna Krings (ITAS/KIT), Andreas Lösch (ITAS/KIT), Hannot Rodriguez (UPV/EHU), Sergio Urueña (University of La Laguna).