# BRIDGING THE_GAP

## Integrating Historical Knowledge and Complex Human-Environmental Systems Modelling

**This interdisciplinary workshop will bring together a diverse group of historians, archaeologists, complex systems modellers, and sustainability experts. The shared objective is to explore research strategies that can generate actionable knowledge to inform policies addressing the escalating climate crisis.**

To lead to effective policies, the workshop will explore research methodologies that acknowledge the intricate interplay between climatic, social, political, economic, and technological systems. These policies should address human-induced climate change and ensure sustainable development, reduce socioeconomic inequalities, and prevent catastrophic system collapses.

The techniques for modelling complex systems are rapidly evolving, with an increasing exploration of the potential of machine learning and artificial intelligence. These can be employed to generate future scenarios that inform policy decisions regarding climate change mitigation/adaptation and sustainable development. In this context, the study of the past provides invaluable observational data that can help develop models that cannot be validated otherwise, as experimenting with large social-environmental systems is practically and ethically unfeasible. History uncovers the dynamics of such multivariate systems and illustrates resilience and collapse in the face of climate change. However, to enable history to contribute substantially to systems modelling, we must consider the type of historical expertise and data required and identify the most suitable modelling tools and AI-supported technologies to enhance this interdisciplinary work.

While it may be premature to develop concrete policies, the workshop aims to discuss the design of collaborative research platforms that will eventually achieve this objective.

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