

Trifels Summer School 2023 on Critical Infrastructures 25.-29.09.2023 in Annweiler am Trifels, Germany

This year's *Trifels Summer School* is organised by TU Darmstadt and focuses on the current topic of Critical Infrastructures. For one week, researchers from different disciplines work together on questions of infrastructure research in the wonderful ambiance of the Kurhaus in Annweiler am Trifels. In addition to the scientific exchange, a social programme is planned as well as time for networking among the participants.



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Focus on Critical Infrastructures

Over the past few years, awareness of the importance of protecting critical infrastructures has grown considerably. On the one hand, development of security policies (stemming from the attacks of September 11, 2001, to increasing cyber attacks and Russia's war against Ukraine) have contributed to this. On the other hand, the interest in functioning infrastructures has also significantly increased in recent years due to civil considerations. With the growing importance of ICT infrastructures and connectivity to the Internet for almost all technical systems, an awareness of the interconnectedness and interdependence of traditional infrastructures such as transport, water and energy has emerged. In addition, there are plans for the transformation into a new era of sustainable and decarbonized energy use. Firstly, the energy basis of almost all infrastructure systems will be transformed; secondly, renewable energy will require a new and, above all, integrated energy infrastructure system.

The growing attention to Critical Infrastructures has fostered another realization: Infrastructures should not be understood solely as technical artifacts; they have a social, often even a cultural dimension. For example, the "National Strategy for Critical Infrastructure Protection" of the German Federal Ministry of the Interior and Community defines as critical those facilities whose failure could lead to social disorientation. There is also another aspect: technical facilities such as transport, communications or water supply infrastructure always have social, political and economic components and effects. They are based on planning laws, have to be managed and regulated. Their construction is occasionally controversial and politically contested; their renewal requires significant resources. The question of whether a person or household has access to infrastructure is of significant social importance. Researchers have therefore agreed to define infrastructures as "sociotechnical systems" complex phenomena in which technology and social structures intersect.

Summer School Programme

A variety of research topics have emerged in recent years around the vulnerability and protection of infrastructures. In light of the socio-technical character of infrastructures, the summer school will deal with the following:

- How to define criticality?
- Conditions for vulnerability and resilience of infrastructures

- Interdependence of different systems, cascading effects, "system of systems", integrated planning
- Processes of transformation/transition
- Dynamics of infrastructures

We will address the questions together on two levels:

First, we will have a series of input sessions with international critical infrastructure experts from different disciplines. We are looking forward to the sessions organised by Anique Hommels (Maastricht University), Jiska Engelbert (Erasmus University Rotterdam) and Jochen Monstadt (Utrecht University). Secondly, the participants will work on topics in interdisciplinary small workinggroups, with the aim of creating an short presentation at the end of the summer school week.

Apart from that, we will have diverse social programme, a simulation game about a long-term power blackout („Neustart - Die Blackout-Simulation“), a tour of the Trifels Castle, a barbecue evening etc.

Another highlight will be the Trifelser Gespräch, as an exchange between science and practice on the topic „Digitalisation of Infrastructures“ with Manuel Atug (AG KRITIS), Matthias Hollick (TU Darmstadt) and Jochen Monstadt (Utrecht University).

For the detailed programme please have a look at the [timetable](#).

Application Process and Participation

We welcome applications from advanced MA students, PhD students as well as early PostDocs whose projects are dedicated to a topic of infrastructure research and who have interdisciplinary research interests.

To apply, please send the following documents by June 7th as a single PDF file to trifels2023@kritis.tu-darmstadt.de: a short CV, a half-page motivation letter focusing on your interest in interdisciplinary work, a half-page abstract of your current research project

Participation at the summer school is free of charge and includes catering and accommodation besides the course programme.

Travel expenses and additional costs for the field trip are not covered.

Attendees will receive a certificate for their participation in the Trifels Summer School 2023.

Organisation

Trifels Summer School 2023 is organised by TU Darmstadt in cooperation with two research associations located on site, namely the DFG Research Training Group KRITIS: Critical Infrastructures. Construction, Functional Crises and Protection in Cities, and the LOEWE Center emergenCITY - The resilient digital city.

If you have any questions about the programme or the application, please contact the organisation team:

Prof. Dr. Jens Ivo Engels

Dr. Nadja Thiessen | emergenCITY, TU Darmstadt

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Contact: trifels2023@kritis.tu-darmstadt.de



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