

The interdisciplinary Research Training Group *KRITIS* ("*Critical infrastructures: Construction, Functional Crises and Protection in Cities*") at the Technical University of Darmstadt, Germany, announces a

PhD position (f/m/d)

scheduled to **begin 1 October 2023 or earlier**. The position is initially limited to 2 years (until 30 September 2025) and comprises 65% of full-time employment. The successful candidate will be supported in applying for a contract extension through external funding and/or university funding for the completion of the dissertation.

The successful PhD candidate will become a member of the Research Training Group *KRITIS*. The group explores the relationships between urban societies and technical infrastructures in presence and history. Those networked systems that supply urban regions with energy, water, communication, and transportation services and treat and dispose of waste- and stormwater have become critical systems of modern cities. Their failure, disruption, destruction or decay can trigger dramatic crises. In recent years, the vulnerability of critical infrastructures has become a controversial topic. That controversy is due to multiple external threats such as natural disasters, terrorism, warfare, and cyberattacks, and the growing complexity and increasing interdependency of infrastructure systems.

Focus of the PhD:

The objective of the advertised position is to develop an independent research contribution to the urban sociology and/or urban governance of critical infrastructures. Ideally, the PhD project combines an investigation of the dynamics of critical infrastructures with an analysis of their socio-spatial relations, transformations, or governance.

Possible research topics include:

- Crises induced by attacks on urban critical infrastructures through their targeted damage, destruction or shutdown in the context of strategic violent acts (e.g., through terrorist attacks or acts of warfare), with a particular focus on their sociospatial effects and dynamics (e.g., network-centric violence and infrastructural warfare, infrastructural vulnerability and resilience, mechanisms of coping with and preparing for infrastructural breakdowns).
- Functional crises of critical infrastructures due to their damage or destruction in the context of natural disasters (e.g., due to earthquakes, tsunamis, droughts, or floods) with a particular focus on their sociospatial impacts.
- Functional crises of critical infrastructures due to their failure in the context of tourism (e.g. related to over- or undertourism).
- Transformation of critical infrastructures through their musealisation/eventisation (e.g. development of the sewers in Vienna as a film tourist destination or water management systems transformed into UNESCO World Heritage).
- Transformation of critical infrastructures through their reconstruction or conversion (e.g., after wars and catastrophes).

Apart from these topics, proposals on other relevant research topics exploring the urban and spatial dynamics of infrastructures from a social science perspective are welcome.

The PhD thesis may be written in German or English. It will be supervised by [Professor Sybille Frank](#) (Urban Sociology and Sociology of Space, TU Darmstadt). It is possible to write the dissertation within the framework of a Joint Doctorate with Utrecht University, with [Professor Jochen Monstadt](#) (Governance of Urban Transitions, Utrecht University) as co-supervisor.

Requirements:

The requirement for the position is an excellent academic degree in a social sciences discipline (diploma, master's degree or equivalent) with a focus on urban/spatial sociology, urban/spatial development or governance research. Moreover, a very good knowledge of qualitative methods of empirical social research is essential. As the regular joint activities of *KRITIS* take place in German and English, a good command of the English language and willingness to acquire a good knowledge of German are also expected. International experience and willingness to collaborate within interdisciplinary teams are desirable. The successful candidate is expected to take up her/his residence in the Frankfurt/Rhine-Main region, and will be employed at the Institute of Sociology at the TU Darmstadt (near Frankfurt).

Academic environment:

In the Research Training Group, historians, sociologists, urban and infrastructure planners, civil engineers, philosophers, political scientists, architects, and computer scientists have been working together since 2016. Inspired by urban studies and science and technology studies, the group aims to understand and explain these complex systems in their spatiality and temporality. The program focuses on three key interrelated themes/questions:

- *The social construction of criticality*: Why and in which spatial and temporal contexts are infrastructures constructed as critical?
- *Infrastructure crises/failures*: What makes cities and their infrastructures vulnerable/resilient, and what are the impacts of infrastructure failures?
- *Critical infrastructure protection*: How do cities prevent, mitigate, or prepare for infrastructure failures?

KRITIS offers a vibrant research environment for PhD candidates who want to complete their dissertations in an innovative, international program. In addition to contributing to a better understanding of critical infrastructures, we expect the selected PhD candidate to engage with the academic concepts of the research program within interdisciplinary teams. A high level of commitment for exchange among each other and for joint scientific activities is expected. Collaboration across disciplinary boundaries is facilitated through joint seminars, colloquia, and workshops. You can find more information on the academic program, the activities, the first results, and the current members on [our website](#).

The doctoral research fellows in *KRITIS* work in common areas with dedicated office space, and have the support of participating professors and their own research support office. PhD candidates benefit from a wide range of support services for their research. These include group/individual coaching, writing workshops, presentation training or specific support offers for women. Within the framework of the available financial resources, staying abroad financed over several months will be supported. *KRITIS* collaborates with four foreign research institutes and with various societal partners. The TU Darmstadt has an affirmative action program to promote equity in the employment of women and members of underrepresented minorities and strongly encourages them to apply. Candidates who

have a degree of disability of at least 50 are given preferred treatment if equally qualified. Salaries depend on each fellow's qualifications and experience and will be calculated according to the collective agreement of TU Darmstadt (TV-TU Darmstadt).

Your application:

Please submit your application by **25 July 2023** in English or German to the following two email address (compressed in one file, max. 6 MB): frank@ifs.tu-darmstadt.de. Please enclose the following documents: (1) a motivation letter, (2) a CV with information on academic qualifications, language skills and international experience, (3) scanned copies of academic credentials, and (4) a short proposal for your planned PhD project (2-4 pages), taking into account the academic program and (some of) the concepts of *KRITIS*.

Potential candidates may contact [Professor Sybille Frank](#) for advice on possible PhD thesis topics and research designs before submitting their application. We look forward to receiving your application!

Application deadline: 25 July 2023