



Are you passionate about dynamic systems, control engineering, and applied mathematics? Do you want to develop cutting-edge control algorithms for the security and resilience of cyber-physical systems? We welcome you to apply for a PhD position in the **SecReSy4You Doctoral Network**, a European-wide network funded by the Marie Skłodowska-Curie Actions (MSCA). This advertisement focuses on the position hosted at the **Control and Cyber-Physical Systems Group at TU Dortmund University**, Germany. For a complete list of available positions, please visit the network's website www.secreesy4you.eu.

Doctoral Researcher (m/f/d) in the European SecReSy4You Network on Cyber-Physical Systems Security

Critical infrastructures and cyber-physical systems (CPS) face increasing risks from cyberattacks that exploit vulnerabilities in digital communication networks, embedded hardware, and software. In response to these challenges, the **European MSCA Doctoral Network SecReSy4You** aims to train a new generation of 10 researchers in cyber-security and resilience for CPS.

This position, hosted by the **Control and Cyber-Physical Systems Group** at TU Dortmund, focuses on **encrypted control** for discrete-event systems (DES). Encrypted control combines methods from control and cryptography to enable a new class of secure control systems. DES provide a natural framework to model the logical and event-driven dynamics of systems such as production systems, supply chains, and transportation networks. The goal of the doctoral project is to exploit the structural properties of DES, such as discrete states and event-driven transitions, to design tailored encrypted control schemes. To address this challenging problem, the successful candidate will build upon the hosting group's long-standing expertise in secure control. Interested in carrying out this project? Check out the following details and apply!

YOUR TASKS AND RESPONSIBILITIES:

- **Interdisciplinary research on CPS security** with a focus on encrypted control.
- Publication of scientific results in top journals and at flagship conferences.
- Contributions to network-wide events.
- Performing academic or industrial secondments.
- Contributions to teaching or other departmental tasks (but limited to 10% of the working time).

WHAT WE OFFER:

- A **full-time position for three years** with an attractive salary.
- Work in an interdisciplinary network of international partners at an outstanding research institution.
- Dedicated supervision and structured support for your scientific development towards a PhD degree.
- Long-standing and internationally recognized expertise in the field of encrypted control.
- Close integration of fundamental research and practical applications.
- Access to state-of-the-art research facilities.
- A supportive and international research environment with a friendly and dedicated team.
- A family-friendly workplace that supports a healthy work-life balance.

YOUR QUALIFICATIONS AND REQUIREMENTS:

- The **MSCA mobility rule** requires applicants to not have resided or carried out their main activity (work, studies, etc.) in the country of their host organization for more than 12 months in the 3 years immediately prior to the recruitment date.
- Excellent degree (Master of Science or equivalent) in Electrical Engineering, Mechanical Engineering, Computer Science, or a related field.
- Strong background in control engineering, systems theory, or numerical optimization.
- Programming skills (C, C++, Python, or Matlab).
- Proficiency in English, both written and spoken.
- Knowledge in cryptography and German language skills will be considered an advantage.

We promote diversity and equal opportunities. Applications from women will be given preferential treatment in accordance with the statutory regulations. The application of suitable severely disabled persons is desired.

For further information on this advertisement, the research project, and the SecReSy4You Network, please contact Prof. M. Schulze Darup at moritz.schulzedarup@tu-dortmund.de

Are you interested in becoming part of the SecReSy4You network? We look forward to receiving **your application** (including cover letter, CV, copies of degree certificates and transcripts of records, and M.Sc. thesis) by 30 April 2026.

Please submit your application **via email** (with one PDF attachment) to jobs.rcs.mb@tu-dortmund.de quoting the reference „**SecReSy4You**“.