

## **Kolloquium**

**am Freitag, 10.11.2023 ab 14:30 Uhr  
im Hörsaal 11, IM, Innstr. 33  
der Universität Passau**

**auf Einladung von Prof. Dr.-Ing. Christian Hammer  
zum Vortrag von  
Dr.-Ing. Ben Hermann  
(TU Dortmund)**

**mit dem Vortragstitel:  
The Perils Hidden in Software Component Ecosystems**

Biography: Ben Hermann is an assistant professor at the Technical University of Dortmund. He works on evolutionary software security and has been the author of several works in the field of static program analysis. Prof. Hermann worked on multiple static analysis frameworks including PhASAR, Soot, and OPAL. He has significant experience in engineering these frameworks and the analyses built on top of them. He received his doctorate from the University of Darmstadt for his work on Java security.

**Abstract:** The story of vulnerability detection via static program analysis has certainly been full of successes and major advancements in the past decade. We now detect more security vulnerabilities earlier and better than ever before. However, the results achieved today are only snapshots as software constantly evolves. Changes might invalidate static analysis results while the analysis is running and component configurations might change rapidly. When inspecting a software system only at one point in time insights will be limited by construction and long-term evolutionary aspects (e.g., design fragility) will be missed.

In my talk, I will line out why the field of static program analysis has to grow out of the classic "whole program" view and embrace compositionality in order to keep up with software engineering practice. A central role in this change will be the treatment of software component ecosystems. I will give an overview of our ongoing activities to scale program analysis to this challenge and explain the challenges involved.