

## DVCon Europe 2024 – Research Track Proceedings

We are delighted to introduce the research track proceedings of the DVCon Europe 2024 Conference, an essential gathering for professionals, researchers, and academics in the field of electronic design automation (EDA) and verification. The Design and Verification Conference (DVCon) continues to be a premier venue for exchanging cutting-edge ideas and breakthroughs in methodologies, tools, and techniques that push the boundaries of semiconductor design and verification. This year's conference highlights the latest advancements in modeling, simulation, verification, and security in hardware design, reflecting the dynamic nature of the industry.

The research track of DVCon 2024 features a diverse set of papers that address current challenges and propose novel solutions to enhance design and verification processes. The papers are organized into three main categories: **Modeling and Simulation Techniques**, **Verification and Testing Methodologies**, and **Security and Safety in Hardware Design**. Each category presents a range of topics that are critical to advancing the state-of-the-art in EDA.

### **Modeling and Simulation Techniques**

This category explores novel approaches in modeling and simulation, highlighting the importance of efficient and accurate design processes. Papers include discussions on virtual prototyping for specialized applications and system-level modeling frameworks, which aim to enhance the early stages of design.

### **Verification and Testing Methodologies**

Focused on improving reliability, this category includes papers on advanced verification methods, such as formal equivalence checking, VLSI assertion generation, and software verification for hardware systems. These contributions are crucial for ensuring the functional correctness of complex designs.

### **Security and Safety in Hardware Design**

This category addresses the growing need for secure and safe hardware designs, featuring scalable verification methodologies and techniques for real-time anomaly detection. The focus is on protecting systems from vulnerabilities and ensuring their safe operation in critical environments.

We thank all authors, reviewers, and participants for their contributions to making DVCon 2024 a success. We hope these proceedings inspire further innovation and collaboration in the field.

*Prof. Dr. Christoph Grimm, Prof. Dr. Matthias Jung*  
*DVCon Europe 2024 Research Track Chairs*

*Dr. Johannes Koch*  
*DVCon Europe 2024 Research Track Publication Chair*