

# CISPA



# EMZ



# ZINE

# 10

English Edition

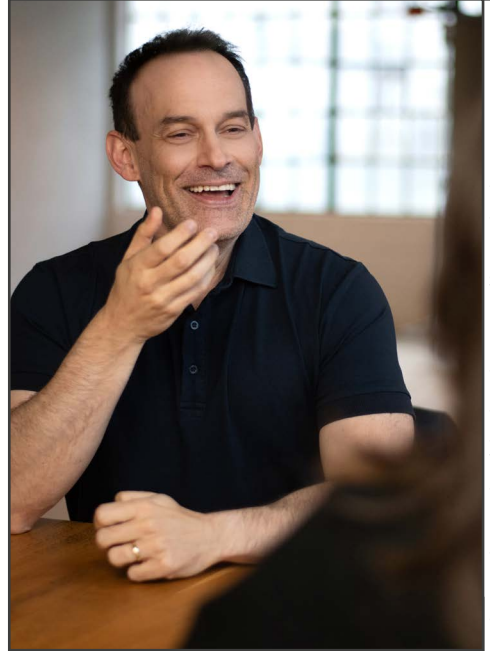
# DEAR READER,

In a digital society, cybercrime and disinformation campaigns threaten social participation. Social interactions, housing searches, banking transactions, educational opportunities, and so much more takes place based on digital systems. Trust in their reliability enables people to partake fully of what society has to offer.

At *CISPA*, we pursue a mission: to make tomorrow's digital world a safer place. Through our excellent research, we aim to make a decisive contribution to cybersecurity and trustworthy AI. In doing so, we help to build a strong foundation for the digital freedom of citizens.

Cybersecurity research influences the design of digital technologies and, by extension, affects the lives of users. That is why our research sometimes raises critical ethical questions, as our work must not result in unintended negative consequences. Responsible research must always bring society more opportunities than risks.

We take this social responsibility very seriously and have established a *Research Ethics Office* at *CISPA*. Our philosophers address questions of research ethics, offer educational programs, and provide advice to our researchers. We are particularly proud of our own *Research Ethics Review Board*,



Prof. Dr. Dr. h. c. mult. Michael Backes © Jennifer Weyland

which evaluates research projects based on ethical criteria.

In this issue of our *Zine*, read about how *CISPA* addresses research ethics challenges.

Enjoy reading!

Prof. Dr. Dr. h. c. mult.  
Michael Backes

# FACTS ABOUT CISPA

Information as of: 2026/03

The *CISPA* Research Ethics Office provides guidance and manages, among others, the *Research Ethics Review Board (ERB)*.

Supported projects  
**20**

Last year's *CISPA* ERB requests  
**51**

*Research Ethics Office* contributions to scientific or public events and projects

**15**

*CISPA* ethics educational sessions

**13**

Processed cases by the *CISPA* ERB in its pilot phase since December 2025

**14**

# A UNICORN IN CYBERSECURITY

At *CISPA*, two trained philosophers are dedicated to assessing research ethics issues. Thorsten Helfer and Jannik Zeiser have been tasked with establishing the *CISPA Research Ethics Office* since July 2024: “To our knowledge, there is no other Ethics Office within the community that consists of people who deal exclusively with research ethics issues in cybersecurity research. In that sense, we are a unicorn,” says Helfer. Yet, computer science is frequently confronted with research ethics issues. It concerns systems and technologies that many people interact with and thus has a profound impact on daily life.

Among the ethical challenges in cybersecurity research is the *dual-use dilemma*. This is because even research that is socially beneficial can, under certain circumstances, be used for malicious purposes. While, for example, uncovering vulnerabilities in hardware and software advances cybersecurity, there is also a risk that these research findings might be exploited for attacks. To mitigate this risk, researchers follow established processes of responsible disclosure, inform the manufacturers of the vulnerable components,

provide guidance on closing the security gaps, and present their findings to the public only afterward.

From the very beginning, Helfer and Zeiser have been working toward establishing *CISPA's* own *Research Ethics Review Board (ERB)*, together with *CISPA-Faculty Dr. Katharina Krombholz* and *Prof. Dr. Sascha Fahl*. Both Faculty conduct research in the field of empirical and behavioral security. “The challenges of digital security and data protection present themselves in our research as a *socio-technical problem*—they arise from the interaction between humans and machines in the real world,” Krombholz explains. They often deal with ethical questions, not least because they rely on human participants for their studies.

Ethical risk assessments, however, are also relevant even when research does not involve the collection of user data, Krombholz says: “Almost everything we research at *CISPA* regarding cybersecurity and artificial intelligence has the potential to impact society. We must absolutely address these implications right from the start of the research process.



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*Thorsten Helfer and Jannik Zeiser (from left to right) from the CISPA Research Ethics Office*

Only in this way can we ensure that technical systems built on our findings do not cause unexpected harm to society.”

The newly established *ERB* at *CISPA* does not only review research projects that involve human participants or analyze personal data. In all cases, it seeks to minimize risks and weighs them against the societal opportunities the project opens up. The *ERB* assesses the ethical justifiability of the projects without, however, relieving researchers of responsibility for their own work. Since major scientific conferences recommend *ERB* approval for many submissions, the committee has systemic as well as ethical relevance.

The philosophers of the

*Research Ethics Office* aim to raise awareness of ethical issues among young researchers and train them in addressing these issues in a practical manner. Their educational offerings include the *Ethics Sandbox*, a forum where scenarios from IT research are discussed. They also advocate for a broader debate on research ethics within the global community. “We want to learn from researchers about their research so that we can solve ethical challenges together,” says Zeiser, explaining the mission of the *CISPA Research Ethics Office*. And thus describes both the curiosity and the sense of community that make excellent research possible.

# “ETHICAL RESPONSIBILITY IS AN INTEGRAL PART OF ACADEMIC FREEDOM”

## What does your role at the Research Ethics Office entail?

**Jannik:** A key focus is the *Research Ethics Review Board*, which we help oversee and in which we serve as members. We also provide guidance when researchers have questions about research ethics. In addition, we offer workshops and training sessions on research ethics in cybersecurity and AI. And then there's our *Ethics Sandbowl*, a monthly discussion event.

**Thorsten:** Another focus is building networks in the field of ethics and cybersecurity. For example, we're part of the *USENIX Research Ethics Committee*. We're also currently looking for points of contact within the *Helmholtz Association* to connect with other units that deal with research ethics. Our goal is to build an infrastructure that could institutionalize a larger network for research ethics.

## What ethical questions arise in cybersecurity research?

**Jannik:** Participant studies and personal data play a major role,



Thorsten Helfer and Jannik Zeiser (from left to right) © CISPA/David Rohner

especially in usable security, but it goes far beyond that. For example, when researching vulnerabilities in devices that are connected to the

internet and that may react unexpectedly. It is a major challenge that research often affects people, even though it cannot be classified as a traditional participant study. It is crucial to identify and assess the risks in cooperation with the researchers: How likely is it that sensitive systems will fail, or that other harm will be caused to people?

**Thorsten:** Ultimately, people—as beings susceptible to well-being—are connected to many digital systems. Even researchers in cryptography must ask themselves: What can be done with my research? Could countries that want to increase surveillance of their populations use my research for that purpose? Privacy issues arise in AI research anyway: What do we feed into the models, and with what data do we train them? This opens up ethical dimensions.

### **What are the ethical cornerstones that guide your work?**

**Jannik:** Our approach is values-based. Broadly speaking, it revolves around six core values that are also found in our *CISPA Research Ethics Framework*: autonomy, well-being, justice, privacy, sustainability in the sense of environmental protection, and epistemic progress—that is, the acquisition of knowledge.

### **To what extent does epistemic progress count as an ethical value?**

**Thorsten:** You have to ask yourself what the value is of what you're doing. And in many projects, that value is measured by epistemic progress. You can't act as if there's always a clear ethical answer. Rather, you have to balance the different values against one another: How can we reconcile epistemic progress with, say, minor sacrifices in well-being? How significant must the increase in knowledge be for us to accept other trade-offs?

### **USENIX Security, a major scientific conference, requires an Ethics Section in scientific papers. Is this a hurdle for researchers?**

**Thorsten:** Ethics is not part of their academic training, so researchers may not have a systematic way of thinking about it. It is helpful that we can support them with our expertise. However, it is not the case that we dictate to researchers how they should resolve ethical issues—ethical responsibility is an integral part of academic freedom. Ethics sections help people reflect on ethical questions and potentially identify problems. And when you ask intelligent people intelligent questions, they will come up with intelligent answers.

**The interview was conducted by Eva Michely. The full interview can be found at:**  
<https://cispa.de/en/interview-reo>

# MORE GOOD NEWS

## **CISPA Campus unites research and innovation in St. Ingbert:**

The future *CISPA Campus* connects the Research Campus with the *CISPA Venture Campus*, bringing together world-class international research, innovation, and startup activity in one location. In the future, more than 1,600 people will be able to work on the integrated *CISPA Campus*.



Quelle: HPP Architektent/©B. C. Horvath

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**International honor:** *CISPA-Faculty Cas Cremers* has been awarded the *Levchin Prize for Real-World Cryptography*. He receives the award jointly with *David Basin (ETH)*, *Jannik Dreier (Université de Lorraine/Loria)*, and *Ralf Sasse (ETH)* for their ongoing work on the *Tamarin Prover*, an open-source analysis tool for cryptographic protocols. The *Levchin Prize for Real-World Cryptography* is one of the most prestigious awards in cryptography.

**Prestigious EU Funding:** *CISPA-Faculty Rayna Dimitrova* has received a *Consolidator Grant* worth 2 million euros from the *European Research Council*. In her *SyReP* project, she is developing new synthesis methods for so-called reactive software systems—systems that continuously react to their environment and must make complex decisions in the process.



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**Recognition for Research Achievement:** Effective January 1, 2026, *CISPA-Faculty Andreas Zeller* has been elevated to *IEEE Fellow*. *Fellow* is the highest membership rank of the *Institute of Electrical and Electronics Engineers (IEEE)*, the world's largest professional organization for electrical engineering, computer science, and related technical disciplines. Less than 0.1% of the *IEEE* voting membership receive this prestigious honor each year. *Andreas Zeller* is being honored for his outstanding contributions to analyzing software and its development process.

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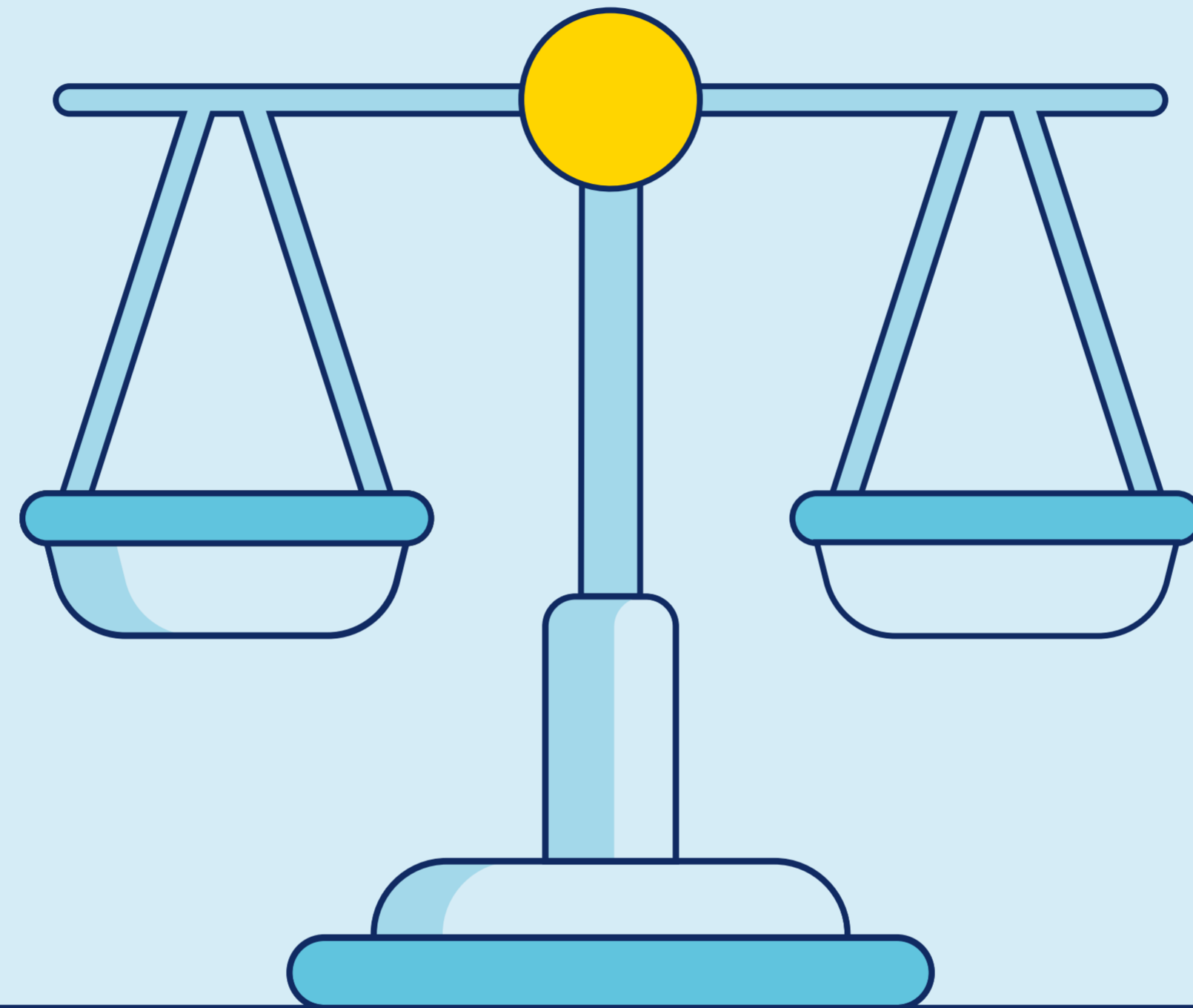
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# ETHICALLY GUIDED RESEARCH AT CISPA



## RESEARCH ETHICS REVIEW BOARD (ERB)

### RESEARCH IDEA

The ERB process begins prior to data collection. Researchers aiming to obtain ERB approval for a planned project start out by collecting basic information. This includes a brief project summary as well as potential ethical benefits and risks.

### FIRST ROUND

Researchers fill out (and submit) a study questionnaire in Qualtrics. The initial review is conducted by the Research Ethics Office, who may direct follow-up questions to the researchers. In usual cases, approval can be granted within two weeks.

### SECOND ROUND

**IN COMPLEX CASES** a second review round is required. One or more Faculty ERB members are then asked to join the process and contribute their expertise. The Board deliberates the relevant ethical considerations in close communication with the researchers.

### GO-AHEAD

After approval, applicants may start the research project, collect data, and proceed with their research agenda. If any ethically relevant parameters change after this point, the ERB should be consulted. The Research Ethics Office is also available to assist with any other ethical issues that arise during the project.