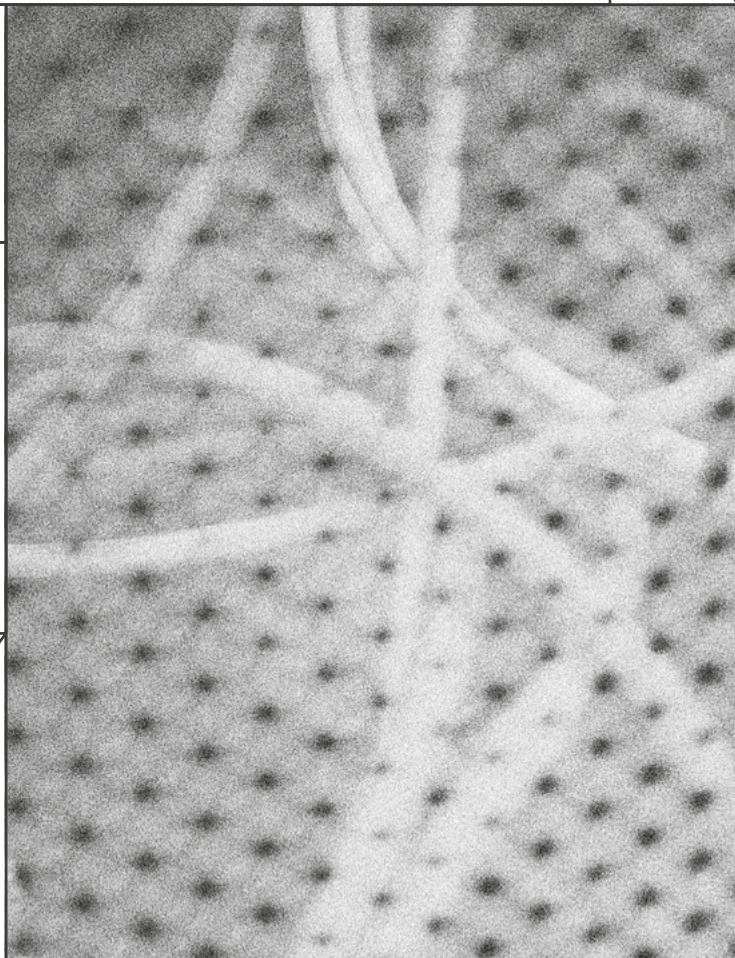


CISPA



mz



ZINE

8

English Edition

DEAR READER,

A key component of the excellence strategy at *CISPA* is to provide our researchers with every possible support so that they can fully concentrate on their research. For this reason, we have created an environment of science support departments that take on a range of specific tasks. These include obvious topics such as IT support, reporting and recruiting to methodological support.

In this context, I am particularly proud of the *Empirical Research Support* department, whose work is presented in this zine. Having a unit dedicated solely to supporting researchers in empirical and behavioral research and providing research infrastructure is something special. In our research community, this is a unique selling point. For me, the department is an example of the Center's constant striving for scientific excellence.

After all, one of the decisive factors for success in science is a finely tuned interplay between research question and method, as well as precision and traceability in implementation and data analysis. Through the way we deal with these topics at *CISPA*, we set standards that reach far into the research community and thus also contribute to the fur-



Prof. Dr. Dr. h. c. Michael Backes @Tobias Ebelhäuser/CISPA

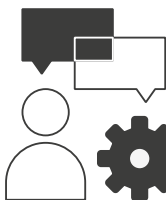
ther development of our field of research. I am therefore all the more pleased to be able to give you a deeper insight into the work of the department in this zine.

Enjoy reading!

A handwritten signature in black ink, which appears to read 'M. Backes'.

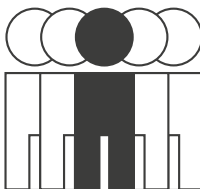
Professor Dr. Dr. h. c. Michael Backes

FACTS ABOUT CISPA*



150

support requests

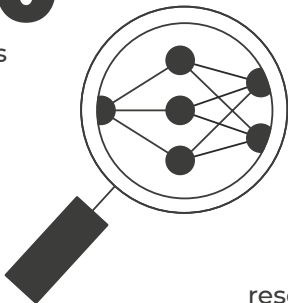


16

total staff
(including student assistants)

5500

working hours



30

supported
research projects



4

papers with ERS team
co-authorship

in **2024**

*ERS-Team

METHODOLOGICAL SKILLS: THE DNA OF SUCCESSFUL RESEARCH

It may be surprising to encounter psychologists and social scientists at a cybersecurity center. However, behind it lies a unique concept: the creation of an in-house department staffed with qualified personnel to offer advice on social science methods and manage research infrastructure. The project was implemented by psychologist *Dr. Michael Schilling*. In 2020, he was entrusted with its leadership by CISPA's founding director and CEO, *Prof. Dr. Dr. h.c. Michael Backes*. Today, the Empirical Research Support (ERS) department consists of eight employees, including six psychologists, one statistician, and one sociologist, as well as a handful of student assistants.

Head of the department *Dr. Schilling* describes the philosophy of his work as follows: "In my view, the core focus is on enhancing research methodology and scientific rigor in the field of behavioral research on IT security. CISPA can have a great impact in this regard by advancing the topic overall and providing our researchers with con-

crete methodological knowledge and the necessary infrastructure." The expertise of his department covers the entire lifecycle of a research process: from developing the study design and employing methods to data analysis and methodological proofreading.

Schilling defines the core task of the department as advising on scientific issues as well as active collaboration on projects. "This can even extend to co-authorship on a study," he explains. The ERS team's consulting services encompass a wide range of research methods, from interviews and surveys to discourse analysis, experiments, and eye-tracking. This also includes various data analysis procedures, such as qualitative content analysis or statistical hypothesis testing. Ideally, his team is involved as early as possible, the psychologist explains. "Because once the data is collected, there is hardly anything that can be changed," Schilling continues. "Nevertheless, we are open to joining a



Dr. Michael Schilling © Felix Koltermann/CISPA

study at any stage to see where and how we can offer support.”

The second pillar of the department’s work is the provision of research infrastructure. For example, the department provides access keys to the survey tool *Qualtrics*. Additionally, it offers licenses for programs used in qualitative data analysis, such as *Atlas.ti*, which are supplemented by introductory courses on the various tools. “Ultimately, it’s about taking as much of the administrative burden off the researchers as possible, so that they can focus on their core task which is research,” says Schilling.

A good example of how the *ERS* team combines services for the center with its own research activities is a comparative study on transcription services conducted in 2023. The team started by questioning whether *CISPA*

researchers should be recommended manual or AI-supported transcription services. With this study, the *ERS* team was not only able to provide their in-house colleagues with a data-driven recommendation, but also to present the results in a poster session at the renowned IT conference *CCS* and sharing them with the research community. In summary, it was a win-win scenario that also contributes to the department’s overall success.

“WE ARE REALLY LUCKY TO HAVE THIS TEAM”

CISPA Faculty Dr. Sven Bugiel has known CISPA since its founding days. Not only has he been instrumental in making the center a haven of scientific excellence, but he has also experienced the growth process first-hand. From the outset, he maintained regular communication with the Empirical Research Support (ERS) department. In this interview, he tells us about the collaboration.

How did you experience the genesis of the ERS department at CISPA?

When the whole thing started with Michael Schilling as the first employee, we had hardly any in-house expertise in the field of user-centered studies. In this respect, it was a perfect addition to our research. Unlike in IT, the methods required for this are taught extensively in social sciences and psychology. The goal from the outset was to transfer this approach to methods from other disciplines into our field of research. This was also linked to the idea of taking on a pioneering role.

How would you describe the range of methods used in your field of research?



Dr. Sven Bugiel © Tobias Ebelhäuser/CISPA

To me personally, there are two specific fields of research. One of them is classic system design. Here, for example, security solutions have to be evaluated. This should be done using a clear methodology, e.g., through statistical tests. At our university, however, statistics is not taught at all in computer science. This is a knowledge gap where the ERS team is really worth its weight in gold. The second area of my work, which is much closer to the core competencies of the ERS team, are studies in the field of user-centered research. These are studies on password security or password-

less authentication, for example, where we work with users. Data is collected via surveys, interviews, or laboratory studies.

How does the collaboration with the department work in practice?

Let's say you have an idea for a new study and already have a research question. In that case, you contact the *ERS* team to inquire if they have the capacity and interest in the project. Together with the *ERS* team, the research question is then broken down and refined: What exactly is the research question, what are the sub-research questions, and how can these be translated into testable hypotheses? Then, you collaborate on deciding what type of data is needed and how to collect it. It's important to determine how to test the hypotheses to answer the research question, driven by the data. The *ERS* team then also takes on part of the recruitment of study participants, data collection, and, together with us, the analysis.

Is methodological consulting through a dedicated department standard in academia, or is it a unique CISPA feature?

No, that's not a standard practice. In my opinion, it's something quite special. I know others working in this field have taught themselves and trained others. They usually handle this within their own research groups or, like in the American system, across

two or three groups. However, a dedicated team that provides, develops, and maintains infrastructure, and also assists with setting up studies, is truly something unique. We are really lucky to have this team.

What do you appreciate most about the *ERS* team?

What I value most about the *ERS* team is that they go beyond being a mere service department; they take a proactive approach. For instance, they initiate their own projects, such as Rudolf Siegel's *Cysec4Psych* initiative. If, as a center, we can support them in a way that enables them to not only function as a service unit but also develop a distinct scientific profile at the intersection of IT security, computer science, and methodology, I find that truly remarkable.

Thank you for the conversation.

The interview was conducted by Felix Koltermann. The full conversation is available at:
<https://cispa.de/en/interview-bugiel>

MORE GOOD NEWS

New CISPA building
@Tobias Ebelshäuser/CISPA



On March 18, the first *CISPA CYBER BRIEFING* took place in Berlin in cooperation with our partner *ESMT*. With the motto: "After the election: paths to cyber resilience, digital sovereignty, and greater AI capability," *CISPA* researchers and startups met with guests from politics, business, and academia. The *CISPA CYBER BRIEFING* is a new event series that aims at fostering regular exchanges between CISPA's leading researchers and representatives from politics and industry.



CISPA CYBER BRIEFING
@Tobias Ebelshäuser/CISPA

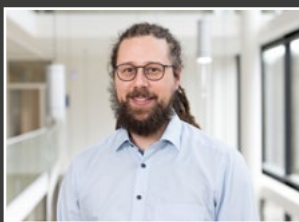
On we go! The construction of the new *CISPA Helmholtz Center for Information Security* building on the Neumann site in St. Ingbert is taking an important step forward. In December 2024, the German federal government and the Saarland state government signed a consortium agreement, securing funding for both construction and operation. Together with CISPA, this agreement lays the foundation for the center's innovative and sustainable future.

CISPA and the *Technical University of Munich* are initiating a research collaboration! On December 9, 2024, *TUM* President Prof. Dr. Thomas F. Hofmann and *CISPA* Founding Director and CEO Prof. Dr. h. c. Michael Backes signed a cooperation agreement. Together, *CISPA* and *TUM* will conduct research on key questions in cybersecurity and trustworthy AI. Scheduled initiatives include joint appointment procedures and the conferment of honorary professorships to leading *CISPA* researchers.



Prof. Dr. Dr. h. c. Michael Backes,
Prof. Dr. Thomas F. Hofmann @iTUM

Dr. Sebastian Stich
@Tobias Ebelshäuser/CISPA



Congratulations to *CISPA* Faculty member *Dr. Sebastian Stich*! With his project "Collective Minds," the machine learning expert has been awarded an *ERC Consolidator Grant*, which includes funding of approximately 2 million euros. His research focuses on developing algorithms which make machine learning more efficient and sustainable through collaboration and improved resource utilization. We look forward to the next five years of groundbreaking research!

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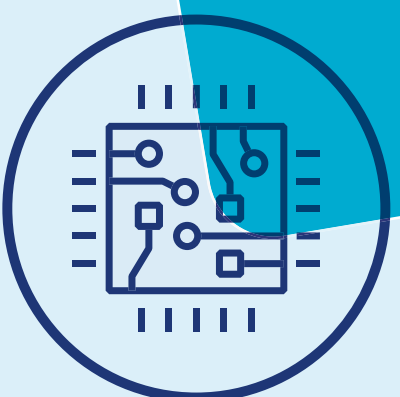
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I NEED A LICENSE FOR A PROGRAM TO ANALYZE QUALITATIVE INTERVIEW DATA. DO YOU HAVE SOMETHING ALONG THOSE LINES?

Of course, for example, we have licenses for Atlas.ti. We can definitely take a look at it together to see if it suits your needs.



I'M LOOKING FOR STUDY PARTICIPANTS FOR AN EXPERIMENT. A COLLEAGUE TOLD ME THAT YOU HELP WITH RECRUITMENT AND HANDLE THE COMPENSATIONS. CORRECT?

Yes, we do. Let's schedule a Zoom call to discuss the details.



I'M CURRENTLY DEVELOPING THE CODEBOOK FOR A STUDY INVOLVING QUALITATIVE INTERVIEWS. COULD WE DISCUSS THAT?

We'd be happy to. When are you available? Before we have our discussion, we'll need the interview guide and, if you have one, a project proposal.



I'D LIKE TO CONDUCT A META-STUDY ON PAPERS PUBLISHED IN MY RESEARCH FIELD. CAN WE DISCUSS THE BEST APPROACH AND HOW I CAN ENSURE THAT I DON'T OVERLOOK ANY RELEVANT PAPERS?



I'M CURRENTLY REVIEWING A PAPER, AND THE STATISTICAL CALCULATIONS SEEM A BIT IMPRECISE TO ME. COULD WE LOOK AT THEM TOGETHER?

Certainly. We can have a look—just send us the paper, and we'll get back to you promptly.



I HAVE AN IDEA FOR A NEW USER STUDY, BUT I'M STILL A BIT UNSURE ABOUT THE METHODOLOGY. COULD YOU ADVISE ME ON THAT?

Definitely. We can have an informal brainstorming workshop on your idea. It would be great if you could send us an abstract in advance.



MY PAPER CAME BACK FROM A CONFERENCE AND THE REVIEWERS SUGGESTED SEVERAL CHANGES. FOR EXAMPLE, THEY RECOMMENDED THAT I CLARIFY THE LITERATURE ON THE METHODOLOGY. DO YOU HAVE ANY SUGGESTIONS ON HOW TO APPROACH THAT?

Of course. Just send us the paper and the reviewers' comments, and we'll get back to you with some suggestions.



That sounds exciting. We have experience with meta-studies. Feel free to drop by our office, and we can explore it together.