

Annual Report

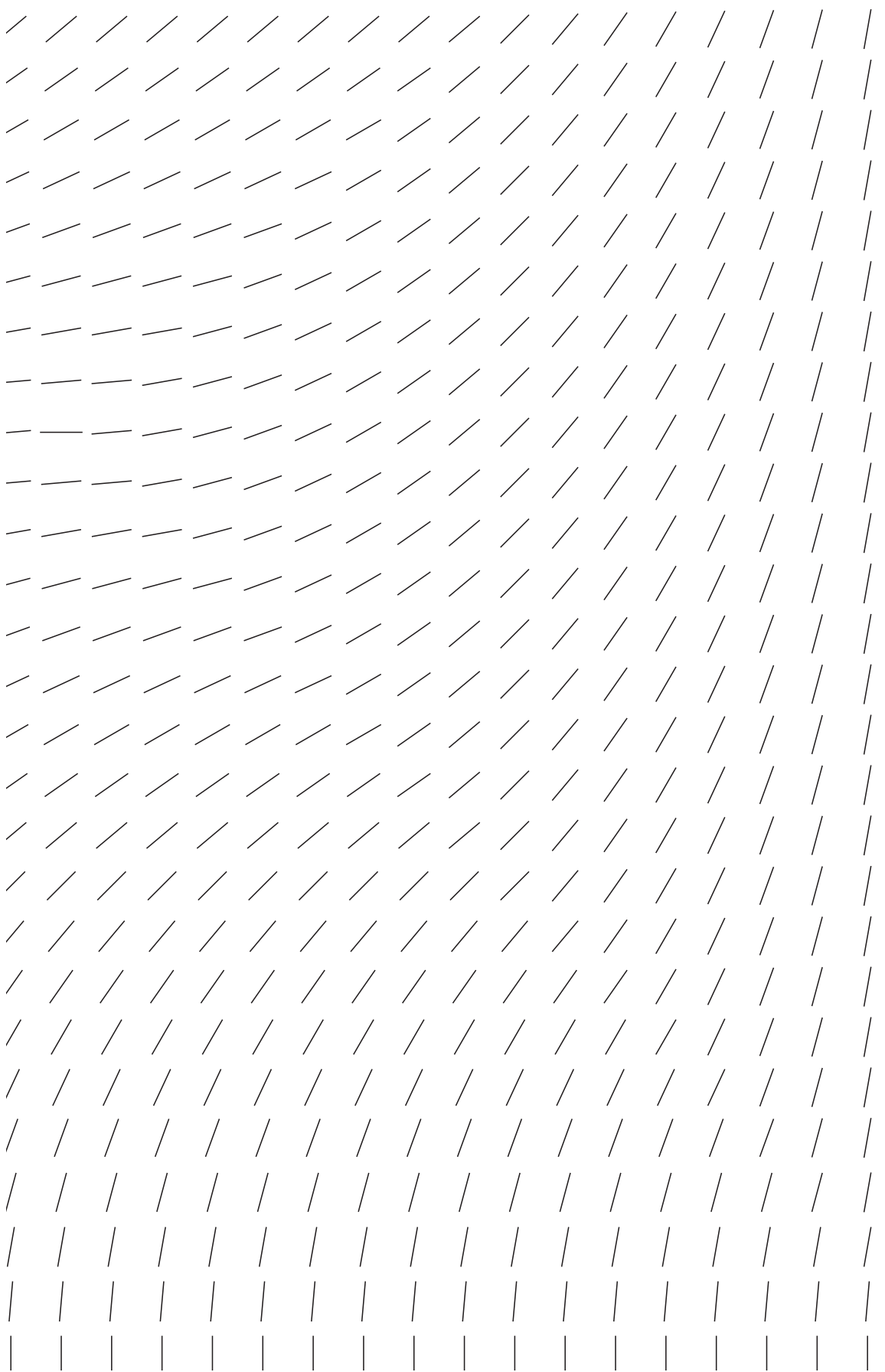
2020 / 2021

Weizenbaum Institute for the Networked Society –
The German Internet Institute

About the Weizenbaum Institute

The Weizenbaum Institute for the Networked Society – The German Internet Institute is a joint project funded by the Federal Ministry of Education and Research (BMBF). The consortium consists of the four Berlin universities – Freie Universität Berlin (FU Berlin), Humboldt-Universität zu Berlin (HU Berlin), Technische Universität Berlin (TU Berlin), Berlin University of the Arts (UdK Berlin) – and the University of Potsdam (Uni Potsdam) as well as the Fraunhofer Institute for Open Communication Systems (Fraunhofer FOKUS) and the Berlin Social Science Center (WZB) and – since September 2020 – Weizenbaum-Institut e.V. as the project coordinator.

The Weizenbaum Institute conducts interdisciplinary and basic research on the changes in society caused by digitalization and develops options for shaping politics, business and civil society. The aim is to better understand the dynamics, mechanisms and implications of digitalization. To this end, the Weizenbaum Institute investigates the ethical, legal, economic and political aspects of the digital transformation. This creates an empirical basis for responsibly shaping digitalization. In order to develop options for politics, business and civil society, the Weizenbaum Institute links interdisciplinary and problem-oriented basic research with explorations of concrete solutions and a dialog with society. This report covers the period from September 15, 2020 to September 14, 2021.



Annual Report

2020 / 2021

Editorial



Managing Board of Weizenbaum-Institut e.V.: Prof. Dr. Sascha Friesike, Prof. Dr. Martin Krzywdzinski, Dr. Karin-Irene Eiermann and Prof. Dr. Christoph Neuberger (from left to right).

Dear reader,

We are glad to present you with what is now the fourth issue of the Weizenbaum Institute's Annual Report. Our reporting period falls within a span of time that continues to be characterized by the COVID-19 pandemic. Despite the associated challenges, the past few months have been particularly eventful for our Institute and defined by more than just the ongoing crisis. In this annual report, we would like to look back on the major developments, research findings, and activities of our institute.

What awaits you over the following pages: The foreword by the Board of Directors on the current state of affairs shows the steps we took last year to set the strategic course for the future of the institute. For example, in a participatory process, we developed a concept in which we set out in detail how we intend to align our research in the future and what contributions we will make in the long term to the promotion and networking of digitalization research, as well as in dialog with politics, business, and civil society.

We then look back on the highlights of the fourth Weizenbaum year. We would also like to present our new series of events, the Weizenbaum Forum, where we invite representatives from politics, business, the media, and civil society to exchange views on our research questions once a month. Another success story was the organization of this year's Weizenbaum Conference as a hybrid event. More than 250 international experts discussed the digital transition in the context of democracy and the public sphere under the title "Democracy in Flux - Order, Dynamics and Voices in Digital Public Spheres".

In the dossier section, we present some of our current research projects and transfer activities. This is followed by a presentation of the research work, collaborations, and transfer activities of the 21 research groups as well as the three cross-sectional formats during the reporting period.

In the subsequent section, we present the organizational structure of our institute, which consists of the management of the institute and its members, Weizenbaum-Institut e. V., as well as the associated committees. Finally, we have compiled relevant facts and figures, including prizes and awards as well as the positions and functions of our leading researchers.

An updated list of academic publications, lectures and courses for the reporting period is available online on our website¹. You can also read about the latest news, research findings, and event announcements on our website. In addition, you can subscribe to our newsletter, which will keep you informed about the work of our institute in the future.

We hope you enjoy reading our report, and as always, look forward to hearing your feedback!

Managing Board of Weizenbaum-Institut e.V.



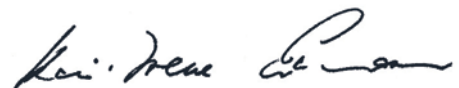
Prof. Dr. Christoph Neuberger
Managing Director
(FU Berlin)



Prof. Dr. Sascha Friesike
Deputy Managing Director
(UdK Berlin)



Prof. Dr. Martin Krzywdzinski
Deputy Managing Director (WZB)



Dr. Karin-Irene Eiermann
Administrative Managing Director
(Weizenbaum-Institut e.V.)

¹ <https://www.weizenbaum-institut.de/jb2021/>

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I. Foreword

As we sum up the fourth Weizenbaum year, our gaze turns not only to the past, but also – and this time in particular – towards the future. As this annual report is being written, we are preparing for the second evaluation of our institute, which will take place in the fall of 2021. Next year, not only will the research groups established in 2017 cross the finish line – we will also be setting the course for the future of the institute. In September 2022, we plan to launch the establishment phase of the Weizenbaum Institute.

In the summer of 2020, we initiated a participatory process to develop a vision for the future of the institute. In this process, it was important for us to consider the opinions and experiences of all status groups represented at the Weizenbaum Institute, in addition to the recommendations of the evaluation commission. For the staff, there were many occasions to reflect on the status of what had been achieved and to look towards the future. This process received generous support from the Advisory Board and the Board of Trustees, in which the BMBF and the state of Berlin as funding providers, as well as our seven consortium partners, have a seat and a vote.

Numerous meetings and discussions yielded a 50-page concept paper which outlines the long-term programmatic and structural perspective for the establishment of the institute from year six onwards. It sets out in detail how we intend to align our research in the future and what contributions we will make in the long term to promoting and networking digitalization research, as well as in dialog with politics, business, and civil society.

To this end, we have also enhanced our programmatic content. We have agreed on an integrative concept that combines basic research, interdisciplinarity, and social relevance. In science research and policy, a series of recent concepts (including Mode 2, Transdisciplinarity, Great Challenges, Great Transformation, Anthropocene, or Responsible Research and Innovation) argue that a closer relationship between science and society is necessary to address the major societal challenges of the present. Complex, global issues (such as climate change, migration or the COVID-19 pandemic) can only be understood and tackled through fundamental, interdisciplinary and excellent research, as well as by working closely with politics, business, and civil society. There is no doubt that digitalization is also one of these major challenges. Digital technology has similarly far-reaching and revolutionary consequences for our society as earlier “general-purpose technologies” did, for example in the area of production (mechanization, electrification) or in communication (language, writing, printing). This is why interdisciplinary basic research is necessary. To date, digitalization research – which is still in its infancy – has been determined to a great extent by short-term thematic cycles and hypes, and the perspective of individual disciplines has dominated. The Weizenbaum Institute aims to counteract this by working on relevant topics on a long-term and interdisciplinary basis. In addition, the institute intends to give impetus to digitalization research as a whole and network it better.

Basic research, interdisciplinarity, social dialog, and the guiding values of self-determination and sustainability are viewed as a cohesive whole at the Weizenbaum Institute. The Board of Directors and principal investigators are working extensively on a research strategy for the next funding period that does justice to this profile. The research groups are to be grouped into four focal areas. In order to increase flexibility and diversity, additional research formats are also planned. Our concept paper also describes how teaching and the nurturing of new talent, infrastructure services, along with regional, supra-regional and international networking with third parties, quality and research data management, sustainability, as well as diversity and inclusion are to be shaped and advanced at our institute.

In addition to this Weizenbaum vision, a second document was also compiled last year: the draft of a cooperation agreement. The seven consortium partners – FU Berlin, HU Berlin, TU Berlin, UdK Berlin, Uni Potsdam, Fraunhofer FOKUS and WZB – agreed to engage in long-term collaboration in Weizenbaum-Institut e. V. as an independent organizational institute. This was preceded by several rounds of discussions with the partners, the funding agencies, and also within the institute in order to refine the details of the future cooperation. It has resulted in plans for a hitherto unique structure in digitalization research, which is intended to guarantee close networking for mutual benefit. Thus, the institute will be able to develop and implement an independent research program that is flexible, coherent and interdisciplinary, and financed via public funding – favorable conditions for excellent, internationally visible research with social impact. In doing so, the strengths of the consortium partners will be used for the benefit of the Weizenbaum Institute, which in turn are expected to profit from the strengths of the institute, thus creating a mutually beneficial situation. The greater context is also important for this: Berlin and Brandenburg are home to a particularly dense concentration of universities and research institutions for the fields of digitalization and artificial intelligence. The capital region is on its way to becoming a leading digital hub in Europe. The Weizenbaum Institute and its partners benefit from this favorable location. A Weizenbaum Institute with a secure future will sustain the network over the long term and continuously expand mutual exchange. It will contribute to strengthening the international appeal of the academic hub of Berlin-Brandenburg.

At the meeting of the Board of Trustees in August 2021, the members unanimously approved the draft cooperation agreement and the concept paper. Thus, decisive steps towards ensuring the institute's continued existence and independence have been taken. We feel well-equipped for the upcoming second evaluation and the further establishment of our institute. We would like to thank all those who have contributed to the planning in such a committed and constructive fashion, and are certain that together, we have found a sound concept to ensure the compelling performance of the Weizenbaum Institute!

Board of Directors of the Weizenbaum Institute

Prof. Dr. Christoph Neuberger
(Managing Director, FU Berlin)

Prof. Dr. Sascha Friesike
(Deputy Managing Director, UdK Berlin)

Prof. Dr. Martin Krzywdzinski
(Deputy Managing Director, WZB)

Prof. Dr. Bettina Berendt (TU Berlin)

Prof. Dr. Manfred Hauswirth (Fraunhofer FOKUS)

Prof. Dr. Hanna Krasnova (Uni Potsdam)

Prof. Dr. Herbert Zech (HU Berlin)

II. Year in Review 2020 / 2021

Due to the pandemic, most members of staff spent the fourth year of the Weizenbaum Institute working from home. When it began in September 2020, most of the institute's research, administrative, and social dialog activities had by and large been relocated to the digital domain. Hopes were high that vaccinations would permit restrictions to be lifted in early 2021, thereby allowing people to meet once again at the premises of our institute at Hardenbergstrasse 32, with greater frequency and in larger groups. This annual review reports on how we have advanced research and institutional development despite the pandemic, fostered the promotion of new talent, expanded internationalization, and broadened knowledge transfer and our contacts in politics, business, civil society, and academia.

2.1 Institutional developments

WEIZENBAUM-INSTITUT E.V. TAKES OVER ADMINISTRATION AND COORDINATION

In September 2020, Weizenbaum-Institut e. V. took over the legal representation and central administration of the joint research project. Hence, the association constitutes the institutional framework of the Weizenbaum Institute. It is in charge of the Head Office, whose task is to coordinate and manage the consortium. Public relations, knowledge transfer, internationalization and the promotion of new talent are also the responsibility of the association. The Managing Board consists of Prof. Dr. Christoph Neuberger (Managing Director, FU Berlin), Prof. Dr. Sascha Friesike (Deputy Managing Director, UdK Berlin), Prof. Dr. Martin Krzywdzinski (Deputy Managing Director (WZB), and Dr. Karin-Irene Eiermann (Administrative Managing Director, Weizenbaum-Institut e. V.). One of the key duties of the Managing Board is to further develop and consolidate this still young institute.

NEW RESEARCH AGENDA

Digitalization is a highly dynamic process, and the scientific landscape is also constantly evolving. Hence, since its founding, it has been the goal of our institute to keep its alignment as well as its research agenda open to change. Initial ideas for the further development of the institute in the establishment phase were considered at a strategy retreat of the Principle Investigators (PIs) back in August 2019. Based on the data and stimuli from the evaluation in early 2020, these ideas were fleshed out and a new structure for the Institute's research areas was drafted. For years four and five of the Institute, the original six research areas were merged into four. Following this adjustment, we now have the following research areas:

- People – Work – Knowledge
- Markets – Competition – Inequality
- Democracy – Participation – Public Sphere
- Responsibility – Trust – Governance

The existing 21 research groups will continue to exist within this new structure.

SETTING THE COURSE FOR THE FUTURE OF THE INSTITUTE

In the summer of 2020, we initiated a participatory process to develop a vision for the future of the Weizenbaum Institute. While developing this strategy, it was important for us to also consider the opinions and experience of all status groups represented at the Weizenbaum Institute, in addition to the recommendations of the evaluation commission. This process received generous support from the Advisory Board, which is composed of renowned personalities from academia and industry, as well as the Board of Trustees, in which the BMBF and the state of Berlin as funding providers, as well as our seven consortium partners, have a seat and a vote. The result is a concept paper that is programmatic for the establishment of the institute from year six and, structurally, shows the long-term perspective. It sets out in detail how we will orient our research in the future and what contributions we will make in the long term to promoting digitalization research, as well as to politics, business and civil society. The concept paper describes how interdisciplinary, basic research, dialog with society and knowledge transfer, teaching and the nurturing of new talent, infrastructural services, as well as regional, supra-regional, and international networking with third parties will be structured.

The institute also strategically developed the work areas of internationalization, quality and research data management, sustainability, and diversity and inclusion last year.

Closely linked to this was the drafting of a cooperation agreement. In August 2021, the seven consortium partners – FU Berlin, HU Berlin, TU Berlin, UdK Berlin, Uni Potsdam, Fraunhofer FOKUS and WZB – agreed to engage in long-term collaboration in Weizenbaum-Institut e. V. as an independent organizational institute. This was preceded by several rounds of discussions with the partners, the funding agencies, and also within the institute in order to refine the details of the future cooperation. It has resulted in a hitherto unique structure in digitalization research, which is intended to guarantee close networking for mutual benefit. Thus, the institute will be able to develop and implement an independent research program that is flexible, coherent and interdisciplinary, and financed via public funding – favorable conditions for excellent, internationally visible research with social impact.

Through our vision for the future and the cooperation agreement, we have taken decisive steps towards ensuring the institute's continued existence and independence. We feel well-prepared for the upcoming second evaluation at the end of 2021, which will decide whether our institute continues to receive funding for the establishment phase, starting in year six.

NEW MEMBER ON THE BOARD OF DIRECTORS

Since March 2021, the Weizenbaum Institute has had a new Deputy Managing Director, Prof. Dr. Martin Krzywdzinski. He succeeds Prof. Dr. Herbert Zech, who remains a member of the Board. In his role as PI, Krzywdzinski will continue to hold scientific leadership of the research group “Working in Highly Automated Digital-Hybrid Processes”.



Martin Krzywdzinski has been a deputy managing director of the Weizenbaum Institute since March 2021.

2.2 The Weizenbaum Institute in the Corona crisis

The COVID-19 pandemic has continued to impact research and work at the Weizenbaum Institute in our fourth year. Back during the first lockdown, we gained experience on how to best maintain the exchange of information and ideas within and outside the institute by means of various digital applications. Video conferencing remained the preferred communication tool in the second and third waves as well, whether for work meetings, lectures, or even the morning chat over coffee. But it is exactly those casual conversations on the sidelines of an event, the chance encounters at the copier, precisely those moments that are not on the calendar, that cannot be reproduced so easily in the digital world, and which are often a source of new stimuli and food for thought for our researchers.

Research projects that required physical presence, on-site visits or observations could not take place as planned due to the second and third waves of the COVID-19 pandemic, leading to research designs needing to be modified in some cases. Similarly, contact and collaboration with partners from academia, politics, industry, and civil society during the pandemic was only possible to a limited extent. International collaborations in the form of fellowships or research residencies had to be suspended or postponed in some cases. As a result, some of our research groups introduced virtual fellowships in order to be able to maintain such interactions.



Although the COVID-19 pandemic presented particular challenges for the work of the research groups, it also inspired new research topics, collaborations, numerous publications and media reports dealing with the virus and its impact on the networked society. For example, research group leader Florian Butollo and director Martin Krzywdzinski were able to acquire third-party funding from the German Federal Ministry of Labour and Social Affairs (BMAS) for a project that examines the effects of the COVID-19 pandemic on the digitalization of the world of work. Former Weizenbaum Senior Fellow John Zysman (University of California, Berkeley, USA) was also invited to work on the project in the USA. Research group leader Volker Stocker, together with former Weizenbaum Fellow Jason Whalley (Northumbria University, United Kingdom), participated in a public consultation of the COVID-19 Committee of the House of Lords on “Living online: the long-term impact on wellbeing”. Their position paper explores the role and criticality of the internet during the COVID-19 pandemic, with a focus on the United Kingdom. Lena Ulbricht, head of the research group “Quantification and Social Regulation”, collaborated with the Chilean NGO Datos Protegidos on a project analyzing government COVID-19 management apps in Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, and Mexico in terms of their data security. In a guest article in the weekly newspaper *DIE ZEIT*, PI Gesche Joost warned against a return to regular school classes and advocated for the introduction of new learning concepts. In the summer semester of 2020, research group leader Gergana Vladova and PI Norbert Gronau conducted a longitudinal study at four German colleges and universities. The goal of this study was to find out how students had perceived digital teaching offerings over the course of the semester. Work on this project continued in the 2020 / 2021 winter semester.

After launching a podcast series in the first half of 2020 that focused on the impact of the COVID-19 pandemic on various areas of society, we went one step further at the start of the fourth funding year. We created the Weizenbaum Forum, a series of events where our institute covers concerns and views from academia, politics, business, media, and civil society once a month. In each edition, we bring together three different perspectives to discuss current issues in the networked society with guests. By using digital tools, the audience also has the opportunity to ask questions and take part in polls. Due to the pandemic, the Weizenbaum Forum has so far only been held digitally. But this also has its advantages: With up to 100 participants per event, we are particularly pleased that so many people have also tuned in from other parts of Germany.

In spring 2020, it was with a heavy heart that we had to decide to postpone our annual scientific conference, the Weizenbaum Conference, by a year. But we were all still secretly nursing the hope of being able to hold face-to-face events again by mid-2021. However, the infection rates throughout Germany and across the world were sobering. Instead of a large-scale event, the solution was a hybrid event: For two days, from June 17 to 18, 2021, our premises on Hardenbergstrasse in Berlin-Charlottenburg were transformed into a large television studio with three stages. Under the title “Democracy in Flux – Order, Dynamics and Voices in Digital Public Spheres”, international experts discussed the core characteristics of the digital transition in the context of democracy and the public sphere. More than 250 participants followed the diverse program of lectures, discussions and panels via a digital platform. Interactive elements such as chats and breakout rooms enabled in-depth conversations to take place on the sidelines of the conference. Renowned experts such as Helen Margetts (Oxford Internet Institute, United Kingdom), Matthew Hindman (George Washington University, USA) and Daniel Ziblatt (Harvard University, USA) appeared as keynote speakers, thereby widening the international appeal of the conference.



Hybrid event format: For this year's Weizenbaum Conference, the Weizenbaum Institute was transformed into a large television studio.

2.3 The Weizenbaum Institute in the media

During the reporting period, the Weizenbaum Institute was mentioned in almost 160 media reports. Among the different forms of media, the distribution of the coverage of the Weizenbaum Institute is as follows: 76 percent online, 15 percent in print, 5 percent on the radio, and 4 percent on TV. Here are some deserving of mention: For example, research group leader Thorsten Thiel wrote a guest article for the *Frankfurter Allgemeine Zeitung*, in which he showed that Europe's striving towards digital sovereignty also holds potential for conflict. In an interview with *Südwest Presse*, Weizenbaum director Sascha Friesike explained the processes behind the push towards digitalization as a result of the pandemic, and what will ultimately remain of it. Marking the 30th anniversary of the World Wide Web, our director Bettina Berendt explained to *Deutschlandfunk* which contrasting developments the net has exhibited over the past few decades. As an interview partner in the *ZDF Zoom* series of reports, PI Martin Emmer gave his assessment of disinformation campaigns in the context of the German Bundestag elections.

2.4 Dialog and transfer

At the Weizenbaum Institute, we understand knowledge transfer as the translation and communication of our scientific findings and methods to relevant target groups in politics, business and civil society. In various formats for the sharing of ideas, we prepare content and research results for our target groups and receive advice on relevant issues, thus promoting a dialog with stakeholders. You can read about the transfer activities that took place in the fields of politics, business, civil society, and academia during the reporting period on the following pages.

POLITICS

One key aspect of our self-identity is using the expertise of our research groups to take a stand in political debates and legislative proposals. For example, during the reporting period, we contributed a position paper to the consultation on the European Commission's expanded Digital Education Action Plan. The main focus was on the possible implications of the experience gained from the Corona crisis for shaping the future of digital education. In the position paper, authors from the research groups "Education and Advanced Training in the Digital Society", "Data-driven Business Model Innovations", and "Digital Integration" formulate key requirements for the European digital education landscape.

We also accepted the invitation from the European Central Bank (ECB) for a consultation on the possible issuing of a digital euro. For the research group "Trust in Distributed Environments", a key challenge in creating an electronic currency is to strike a good balance between innovation and trustworthiness. Particularly when it comes to the issue of privacy, the technical design of the system should already ensure that users can rely on a level of protection similar to that of cash. In mid-July 2021, the ECB decided to launch the next project phase for the introduction of a digital euro. We continue to hope for a participatory discussion and development process in which we would be happy to play a part.

In May 2021, the European Commission published an extensive impact assessment on the EU Data Act. This law, which is expected to be available in draft form in the 4th quarter of 2021, is one of the legislative projects on the path towards creating a single European market for data. The research groups “Frameworks for Data Markets” and “Shifts in Norm Setting” participated in the public consultation following the publication of an impact assessment of the EU Data Act with a joint statement. The aim of the consultation was to map out the regulatory framework in which the Data Act would be anchored and to discuss some key issues that may arise in the subsequent legislative process.

With the Data Governance Act (DGA), the European Commission has drafted a legislative proposal that sets out rules for the handling of data and sharing of data with third parties. In addition to mechanisms and standards for data sharing and data use, this also includes structures and processes for the secure exchange of data, such as via trusted data intermediaries. In a position paper published in August 2021, the research groups “Frameworks for Data Markets,” “Work and Cooperation in the Sharing Economy” “Trust in Distributed Environments,” “Responsibility and the Internet of Things”, and “Reorganizing Knowledge Practices” address important aspects of the DGA proposal, such as the regulation of data sharing services, and provide recommendations on the formulation of a number of DGA provisions.

On October 28, 2020, the German Bundestag’s Study Commission “Artificial Intelligence – Social Responsibility and Economic, Social and Ecological Potential” presented its final report to Bundestag President Wolfgang Schäuble after two years of work. The report’s topics were investigated in project groups. Research group leader Florian Butollo was a member of the commission and contributed his expertise to project group 4 “KI und Arbeit, Bildung, Forschung” (AI and Work, Education, Research). Our researcher Hans-Christian Gräfe was also involved in the working group “KI und soziale Medien” (AI and Social Media).

In addition to his membership in the Study Commission, Florian Butollo also participated in the expert dialog “Human Machine Interaction” of the AI Observatory at the Federal Ministry of Labour and Social Affairs (BMAS). Launched in March 2020, the AI Observatory project is tasked with investigating the impact of artificial intelligence (AI) on the world of work and society so that AI technologies can be used in a human-centric and responsible fashion.

Data sovereignty in the context of the European GAIA-X project was debated by the Bundestag’s Committee on the Digital Agenda in a public hearing at its October 28, 2020 hearing. The European project aims to establish a secure and networked data infrastructure that satisfies the high European standards of digital sovereignty while also promoting innovation. Axel Metzger, legal expert and PI of the two Weizenbaum research groups “Frameworks for Data Markets” and “Shifts in Norm Setting”, was one of six invited experts and commented on issues related to data strategy.

On August 10, 2021, the website “Zahlen zur Wahl” (Election Statistics) was launched – a joint project of the Weizenbaum Institute, the European New School of Digital Studies, the NRW School of Governance and the Leibniz Institute for Media Research | Hans Bredow Institute. A team of researchers and students from the institutions will be publishing reports, data, and graphics on the platform leading up to Election Day on September 26, which will analyze, interpret and visualize the social media activities of the political parties and their leading candidates in the super election year 2021. Under the direction of Ulrike Klinger and Johannes Gruber of the European New School of Digital Studies, five students will be monitoring which posts are published on social media in the context of the German federal election and the state elections in Berlin and Mecklenburg-Western Pomerania, and how they spread online. The students received methodical training from Franziska Martini and Xixuan Zhang from the research group “News, Campaigns and the Rationality of Public Discourse”. The website was conceived primarily for journalists, teachers and interested members of society.

Together with the British Centre for Analysis of the Radical Right (CARR), the research group “Digitalisation and the Transnational Public Sphere” is working on creating a comprehensive database of European right-wing extremist organizations. This “Right-Wing Extremist Organization Database” will compile the activities of extreme organizations existing on various platforms. This project is funded by the European Internet Forum. Founded by members of the European Parliament, the organization hopes the database will help internet companies better monitor online content from banned organizations. The first phase of this project will run from May to December 2021, and an extension is already in the works.

With their expertise in the field of digitalization research, many scholars of the Weizenbaum Institute participate in dialogs and debates of the political system, thereby contributing to decision-making processes.

- **Emilija Gagrčin** is a member of the Advisory Council on Youth, which advises the Council of Europe.
- **Christoph Neuberger** and **Martin Emmer** were members of the #FactoryWisskomm of the BMBF
- **Jeannette Hofmann** is a member of the Advisory Committee on Digitalization and Sustainability of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)
- **Gesche Joost** is a member of the selection committee for the BMBF's innovation competition "Invite" on digital continuing education
- **Hanna Krasnova** is a member of the High-Tech Forum of the German Federal Government
- **Thomas Schildhauer** is a member on the panel of the Innovation Program for Business Models and Pioneer Solutions (IGP) of the Federal Ministry for Economic Affairs and Energy (BMWi)
- **Thorsten Thiel** is a member of the "Green Academy" of the Heinrich Böll Foundation
- **Stefan Ullrich** was a member of the expert council of the Third Equality Report of the Federal Government. The report, entitled "Shaping Digitalization for Gender Equality" (Digitalisierung geschlechtergerecht gestalten) was submitted to the then Federal Minister for Equality, Franziska Giffey, on January 26, 2021.
- **Gergana Vladova** and **André Renz** have been appointed to the project "Schultransform" in light of their expertise, an initiative of Bündnis für Bildung e.V. and funded by the BMBF.

CIVIL SOCIETY

Experts at the Weizenbaum Institute interact with civil society via various event and dialog formats. In these contexts, the transfer of knowledge is by no means a one-way street, as these encounters create an awareness of the civil society issues pertaining to increasing digitalization that need to be addressed by researchers. During the reporting period, the following activities can be attributed to the category of dialog with civil society:

On October 13, 2020, the Weizenbaum Institute launched a new monthly event series: the Weizenbaum Forum. The event brings together three selected experts from different fields to shed light on the social consequences of digitalization from various perspectives, and subsequently discuss them with the audience. The event is modeled on the idea of the ancient forum: a place of meeting, interaction, and reflection – thus building bridges between theory and practice. The ten forums hosted so far have covered topics such as the Bundestag election campaign on social media, inequality on the web, the consequences of Corona on the world of work, artificial intelligence in education, or the idea of a European media platform. Over time, the entire spectrum of topics researched at the Weizenbaum Institute are to be discussed in the forum. A number of past discussion rounds are now also available as podcasts.

weizenbaum
forum 



PhD student Hannes-Vincent Krause (right) explains during his presentation at TINCON what positive effects social media can have on the human psyche.

TINCON is a conference for digital youth culture, which took place this year from May 21 to 22 as a live stream due to the pandemic. In lectures, workshops and discussions, representatives of the youth culture scene shared their knowledge and perspectives on digital topics with the young audience. In times of the COVID-19 pandemic, the internet has become the only truly safe public place for many. Everyone is on it – yet it is a place where people sometimes also feel lonely. The question of what positive effects social media platforms such as Instagram can nevertheless have on the psyche was answered by PhD student Hannes-Vincent Krause in his talk “What Insta does to our psyche – Pandemic Edition” (Was Insta mit unserer Psyche macht – Pandemie Edition).

In the podcast series “Was machen wir morgen?” (What will we do tomorrow?) the Weizenbaum Institute collaborated with the corporate law firm YPOG (formerly SMP) and, in a total of eight episodes, introduced the world of venture capitalists, i.e. people who invest capital in technological innovations at high risk. Weizenbaum director Sascha Friesike and fund attorney Joel El-Qalqili (SMP) spoke with leading founders and investors and explored which visions of the technological future guided them in their investments. The episodes were published between October 2020 and February 2021.



The Phaenomenale, actually a Science and Art Festival, was a festival for culture and digital topics in the fall of 2020 under the title “Phaenomenale – Smart Culture”. Our researcher Otto Lutz from the research group “Digitalisation and Networked Security” presented his project “Privacy Sonification” in person in Wolfsburg during a Science Slam. It is a process that makes it possible to acoustically experience the invisible tracking of users on websites.

The digitalization of education in schools is a complex undertaking which has to take into account the abilities and needs of all groups involved in the school. As part of the project “Towards digital schools”, a collaboration between the Weizenbaum Institute and Käthe-Kollwitz-Gymnasium in Berlin, the research groups “Data-driven Business Model Innovations” and “Education and Advanced Training in the Digital Society” are working on digitalization in schools in a scientific and application-oriented manner. Among other things, process modeling methods and tools are applied to represent and analyze the overall process.

Both research groups are also participating in the BMBF-funded project “Schultransform”, which aims to develop a platform for digital school transformation. The intention of the platform is to support schools and school authorities with jointly shaping a holistic digital transformation. A self-check is used to analyze the current status and provide a momentary snapshot of the development process. The project was implemented by Helliwood media & education, a division of Förderverein für Jugend und Sozialarbeit e. V., and Bündnis für Bildung e. V.

The Digital City Alliance was founded in March 2019 as a network of civil society and academic institutions and initiatives. The task of this alliance is to help shape urban digitalization in Berlin and the development of Berlin’s digitalization strategy, which is being drawn up by the city’s Senate together with external consulting organizations. The research group “Inequality and Digital Sovereignty” is a founding member of the alliance and coordinates it in a leading role with PhD student Elizabeth Calderón Lünig as spokesperson. Activities during the reporting period included participation in the online ideas workshop “Participation in the Digital City” (Partizipation in der digitalen Stadt) in cooperation with CityLAB Berlin and the Einstein Center Digital Future as part of the Berlin Science Week, the first roundtable on digitalization policy in February 2021, and a party talk in June 2021 with representatives of the SPD, Greens, Die Linke, CDU, and FDP entitled “Election Special: What is Berlin digitalizing towards?” (Wahl-Spezial: Wohin digitalisiert Berlin?)

Between April and August 2021, the research group “Democracy and Digitalisation” conducted a series of workshops together with the Aspen Institute entitled “Engaging German Influencers”. The aim was to exchange views with influencers, journalists, members of media supervisory bodies and academics regarding the political influence of influencers on society, and the question of how this is being addressed or should be addressed.

What impact does the digital revolution have on health, individual lives and society? How do young people deal with the omnipresence of the internet, smartphones and social media? In cooperation with the Goethe-Institut, the Weizenbaum Institute explored these and other questions as part of the Weizenbaum Film Night on August 5, 2021 at the Freiluftkino Kreuzberg open air movie theater in Berlin. At a German premiere, the documentary film “I Am Gen Z” by British director Liz Smith was screened. The film paints a portrait of a generation that is unfamiliar with a world that is not constantly connected, and has become technologically dependent as a result. The film screening was preceded by a thematic introduction in which Weizenbaum scholars Emilija Gagrčin, Niklas Rakowski and Nadja Schaetz presented the study “We and AI”, which was published jointly with the Goethe-Institut and explores how young people in Europe perceive the use of AI. In a conversation with director Liz Smith, Jessica Wulf (AlgorithmWatch) and Leyla Sünnewold (TINCON), the experts discussed the findings of the study.



Weizenbaum Film Night: PhD student Niklas Rakowski discusses the findings of the study “We and AI” with Jessica Wulf (AlgorithmWatch) – hosted by PhD student Katharina Berr.

Datafication, algorithms, Internet of Things – what is behind these buzzwords used in internet research and what do they have to do with the STEM subjects (science, technology, engineering and mathematics)? Communication scientist Andrea Hamm from the research group “Responsibility and the Internet of Things” was a guest in the online video series of #MINTmagie, a communication offensive of the BMBF. In a conversation with host Max, she explained the topics she is currently researching, what skills and tools an internet researcher requires, and what the future of digitalization might look like.

Vadim Voskresenskii, a doctoral student in the research group “Digitalisation and the Transnational Public Sphere” is a member of the Berlin-based initiative Data Science for Social Good. The initiative’s mission is to create an infrastructure that brings together representatives of the nonprofit sector and practicing data scientists. Through this collaboration, data scientists help non-profits solve challenges related to aspects of data collection, analysis, and visualization. Vadim Voskresenskii co-organized a workshop held at the end of February 2021 with the non-profit organization Camp Group. The goal was to introduce Camp Group representatives to data collection methods that will enable them to better analyze and measure ongoing projects. By using these methods, the organization can also optimize its fundraising and marketing campaigns.

ACADEMIA

Conferences, dialog events and symposia were held exclusively virtually or as hybrid events in the scientific communities during the reporting period. Despite this limitation, scientific exchange on aspects of digitalization was decidedly lively – no doubt also motivated by the central role occupied by digital technology in dealing with the consequences of the pandemic.

The Weizenbaum Institute’s largest digital event during the reporting period was the Weizenbaum Conference on “Democracy in Flux – Order, Dynamics and Voices in Digital Public Spheres”. More than 250 researchers from various disciplines came together virtually on June 17 and 18, 2021 to discuss the fundamental structural change in the public sphere and its consequences for democracy and political communication. The international conference was inaugurated with a video message from the German Federal Minister of Education and Research, Anja Karliczek. Keynote speeches were given by Helen Margetts (Oxford Internet Institute, United Kingdom), Matthew Hindman (George Washington University, USA) and Daniel Ziblatt (Harvard University, USA). Another highlight was the panel discussion on “Between Ivory Tower and Talk Show: How is Academic Relevance Defined?”? PI Jeanette Hofmann discussed with physicist Viola Priesemann, sociologist Heinz Bude, philosopher Judith Simon and communication scientist Uwe Hasebrink the question of how excellence in academia and social relevance can be reconciled. The conference was organized and prepared under the leadership of PIs Jeanette Hofmann and Barbara Pfetsch in collaboration with the research groups “Digitalisation and the Transnational Public Sphere”, “News, Campaigns and the Rationality of Public Discourse”, “Digital Citizenship”, “Democracy and Digitalisation”, and “Quantification and Social Regulation”.



Top left: PI Barbara Pfetsch welcomes participants to the Weizenbaum Conference “Democracy in Flux – Order, Dynamics and Voices in Digital Public Spheres”. | **Top right:** Virtual panel discussion: PI Jeanette Hofmann discusses with physicist Viola Priesemann, sociologist Heinz Bude, philosopher Judith Simon and communication scientist Uwe Hasebrink the question of how excellence in academia and social relevance can be reconciled. | **Bottom left:** Video message from the Federal Minister Anja Karliczek.

During the reporting period, research group leader Volker Stocker organized two one-day symposia. The first, entitled “New Perspectives on the Digital Economy – Sharing, Gigs, and Platforms”, in collaboration with Christoph Lutz (BI Norwegian Business School, Norway), was held virtually on October 16, 2020. The event provided an opportunity for international experts from the disciplines of economics, sociology, information systems, law, and communication studies to present their research on the digital economy and discuss a wide range of topics in an international research setting. Over the course of the day, more than 40 persons attended the event. The second online symposium on “The Web and Internet Policy” in collaboration with Georgios Smaragdakis (TU Berlin / Max Planck Institute for Informatics) was held on December 9, 2020, and attracted more than 150 participants from institutions such as the Massachusetts Institute of Technology (MIT), the University of Pennsylvania, the Madrid-based IMDEA Networks Institute, the Brussels-based think tank Bruegel, Newcastle University, and the Max Planck Institute for Software Systems, as well as industry representatives, public policy makers, and the interested public, who engaged in lively discussions on data privacy, discrimination, and regulation on the internet.

As part of the EU AI Collaboratory program, an association of researchers for the analysis and evaluation of AI systems, the research group “Responsibility and the Internet of Things” led by Weizenbaum Director Bettina Berendt organized a series of topic-focused online meetings on ethical issues in AI and other “smart” technologies. These “Ethics Dialogues” were held in collaboration with the AI4Society Signature Area at the University of Alberta (Canada) and the Center for Digital Ethics at Loyola University Chicago (USA). The dialog events and symposium (six dates in February, March, and April 2021) were attended by over 190 participants from the academic, industry, and political spheres. The presentations have been made available on Vimeo.

From the large number of studies that were also conducted at the Weizenbaum Institute in this reporting period, and whose findings made their way into the scientific communities, we would like to mention some in particular in this annual report:

A representative longitudinal study by the research group “Digital Citizenship”, led by PI Martin Emmer, shows that political engagement in Germany remained at a high level even in the 2020 pandemic year. One other encouraging finding is that a democratic culture of debate is important to citizens and that they are increasingly defending it by taking action against hate speech and fake news online. However, the situation is different in the social sphere: Involvement in social organizations has declined as compared to the previous year, especially among younger people. For the survey, which was conducted for the second time in the fall of 2020, and which records how the use and deployment of digital technologies affect democracy over the long term, 950 representatively selected citizens were interviewed. This survey will continue over the coming years and provide up-to-date information on online participation.

Governments around the world are employing digital technologies to tackle the COVID-19 pandemic. Working with the Chilean NGO Datos Protegidos, research group leader Lena Ulbricht is empirically investigating government-controlled COVID-19 management apps in Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, and Mexico. The findings complement studies on corresponding apps in European and Asian countries and show that the apps serve a wide range of purposes: They enable users to self-diagnose and assess risk, facilitate communication between citizens and health authorities, disseminate government-verified information about the disease, and serve to monitor movement regulations. Although rarely mandatory, in many cases these apps collect sensitive movement- and health-related data on a scale that is disproportionate to the apps’ officially stated goals. Furthermore, the collection, storage, sharing, and use of the data is often opaque, there is little accountability on the part of the authorities, and there is no evidence of the apps’ effectiveness. As a result, critics in all countries studied have accused governments of using COVID-19 apps as an opportunity to expand surveillance of the population without providing sufficient legal protections.

“We and AI” is the title of a study published jointly with the Goethe-Institut which examined how young people in Europe perceive an increasingly data-driven world and what their attitudes are toward the use of AI. For sustainable and responsible AI design, it is of central importance to learn the extent to which people are able to evaluate these technologies in terms of their social and democratic implications. Because young people are the quickest to embrace new technologies, it is important to track how their attitudes toward them are evolving. With this in mind, 3,000 young adults aged 18 to 30 in Germany, France, Greece, Italy, Poland and Sweden were surveyed. The survey focused on topics such as education, work, datafication, privacy, and democracy. The research groups “Digital Citizenship” (Emilija Gagrčin, Nadja Schaetz and Martin Emmer), “Democracy and Digitalization” (Niklas Rakowski), “Education and Advanced Training in the Digital Society” (Gergana Vladova) and “Data-driven Business Model Innovations” (André Renz) were involved in the preparation of the study.





As part of its corporate philosophy, Humans in the Loop employs mostly refugee women.

BUSINESS

For Germany as a business hub, digitalization is a decisive factor for future viability. We are in constant dialog with commercial enterprises and wish not only to study this transformation from an academic viewpoint, but also to accelerate it with our expertise, while at the same time supporting it responsibly.

In one case, for example, a company approached the research group “Data-driven Business Model Innovations” with the question of how it could improve its processes for internal further training and knowledge transfer by collecting and analyzing digital data. The researchers opted for a participatory awareness-raising approach that would educate employees on the potential and risks of data-based continuing education offerings, document their experiences and preferences in a structured fashion, and encourage all stakeholders to develop initial outlines of ideas. For this purpose, they curated a workshop, which they made available to other companies and organizations under a Creative Commons license under the title “Data Awareness Canvas” after practical testing within the company.

The start-up “Not less but better” is a spin-off of FU Berlin and aims to develop short research- and app-based interventions that enable people to make their interaction with digital technologies healthier. The researcher Fenne große Deters from the research group “Digital Technologies and Well-being” has been collaborating with the company for some time. In addition to scientific consultations on existing interventions, there is also a regular exchange of ideas on possible new starting points. The research group will also be involved in the development and conducting of an evaluation study.

Humans in the Loop (HITL) is a Bulgarian company specializing in data annotation for computer vision. Its employees tag elements in data such as images, videos, and audio files so that AI systems can learn to recognize and process this information in the future. As part of its corporate philosophy, the company employs mostly refugee women and places great emphasis on providing them with ongoing training. For example, employees are offered various software and language courses. Milagros Miceli, PhD student in the research group “Criticality of AI-based Systems”, spent some time at HITL in 2019. Upon analyzing the data she had collected, she found that the employees lacked a comprehensive understanding of how their work contributed to data implementation for AI operations. Similarly, it became apparent that their work was by no means free from interpretation when labeling data, which in turn also raises ethical issues. Based on these observations, Miceli developed recommendations for action for AI ethics training for company employees, which was implemented in late 2020. In a further step, the researcher worked with HITL to develop a documentation system for data annotation projects that includes not only technical data, but also details concerning production conditions and decision-making processes.

Since May 2020, the research group “Work and Cooperation in the Sharing Economy” has been working with Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste GmbH (WIK). As part of a research project, the status of the sharing economy in Germany is being examined based on a jointly developed survey of consumers. The concept of the sharing economy is often associated with an idealized image of dynamic digital markets which lead to higher resource utilization, greener and more sustainable economies, a reduced need for exclusive ownership, and easier access to expensive assets. The research project aims to test these prevailing narratives about the sharing economy and to gain insight into what or who is driving the use of sharing economy services in Germany. To this end, the accommodation and shared mobility sectors are being examined by using Airbnb and BlaBlaCar as case studies.

In a study commissioned by the Goethe-Institut, the research group “Education and Advanced Training in the Digital Society” identified the needs of learners and teachers in order to derive new recommendations for the existing learner dashboard. Such dashboards help learners obtain a visual overview of their learning progress. To do this, a learning system collects data about the learner, for example on competencies acquired, or identifies gaps in their knowledge. These can then be displayed graphically in an overview for learners to self-reflect on, along with recommendations for efficient learning. In the study, the researchers also considered the technical limitations and evaluate what specific recommendations can be implemented using the available data.

2.5 Career development

One of the core tasks of the Weizenbaum Institute is the promotion of new talent. In October 2020, the working group “Career Development” was formed to provide needs-based advice and support to scholars at the Weizenbaum Institute in the various career fields. At monthly meetings, participants discuss the entire spectrum of support measures and other relevant topics pertaining to academic career development. During the reporting period, Hanna Krasnova, Gesche Joost, Thorsten Thiel, Simon Schrör, Michelle Christensen, Antonia Köster, Andrea Hamm, Jana Gundlach, Claudia Oellers, Leonie Schipke and Julian Vuorimäki were members of the working group.

During the reporting period, the Career Development working group compiled several policy documents that were adopted by the Scientific Council: A mission statement for doctoral students lays out essential aspects which define the institute’s mission statement and the guidelines for research groups, and addresses them from the perspective of dissertation projects. It provides an overview of the working structures and outlines characteristics of the research projects, such as interdisciplinarity, open research and transfer. The mission statement provides orientation to new doctoral students of the institute. Also adopted were guidelines for the supervision of doctoral students, which constitute a practical and day-to-day continuation of the mission statement for the working relationship between doctoral students and their supervisors. They address essential elements of the dissertation cycle, from start to defense and publication.

In addition, the Career Development working group designed a procedure for the appointment of confidential counselors at the institute. They are an institute-specific offering in addition to the ombudspersons of the consortium partners and the German Research Ombudsman, and offer a point of contact and provide advice on issues relating to good scientific practice in cases of conflict. The confidential counselors of the institute are nominated by the doctoral researchers. Since April 2021, the research group leaders Annika Baumann and Martin Florian as well as the PIs Barbara Pfetsch and Thomas Schildhauer have been acting as confidential counselors. Their appointment lasts until the end of the second founding phase in September 2022.

On November 26, 2020, Research Day was held as a virtual event due to the pandemic, with 67 registered participants. Speakers from the office of the German Research Ombudsman, ZB MED – Information Centre for Life Sciences, WZB, and the office of the Leibniz Association were invited for the thematic focal points of good research practice and authorship. In addition to a plenary discussion and workshops, small-format consultations took place in an atmosphere of trust. In open forums, participants also defined their own methodological and content-related topics, including interview practices, trust in platform economies, or the “COVID-19 infodemic”. During Research Day, initial drafts of the career development policy documents were presented, discussed, and revised after hearing the recommendations of all participants. The event concluded with a Weizenbaum Talk between PI Gesche Joost and Constanze Stelzenmüller (Brookings Institute, USA) on career paths within and outside research.

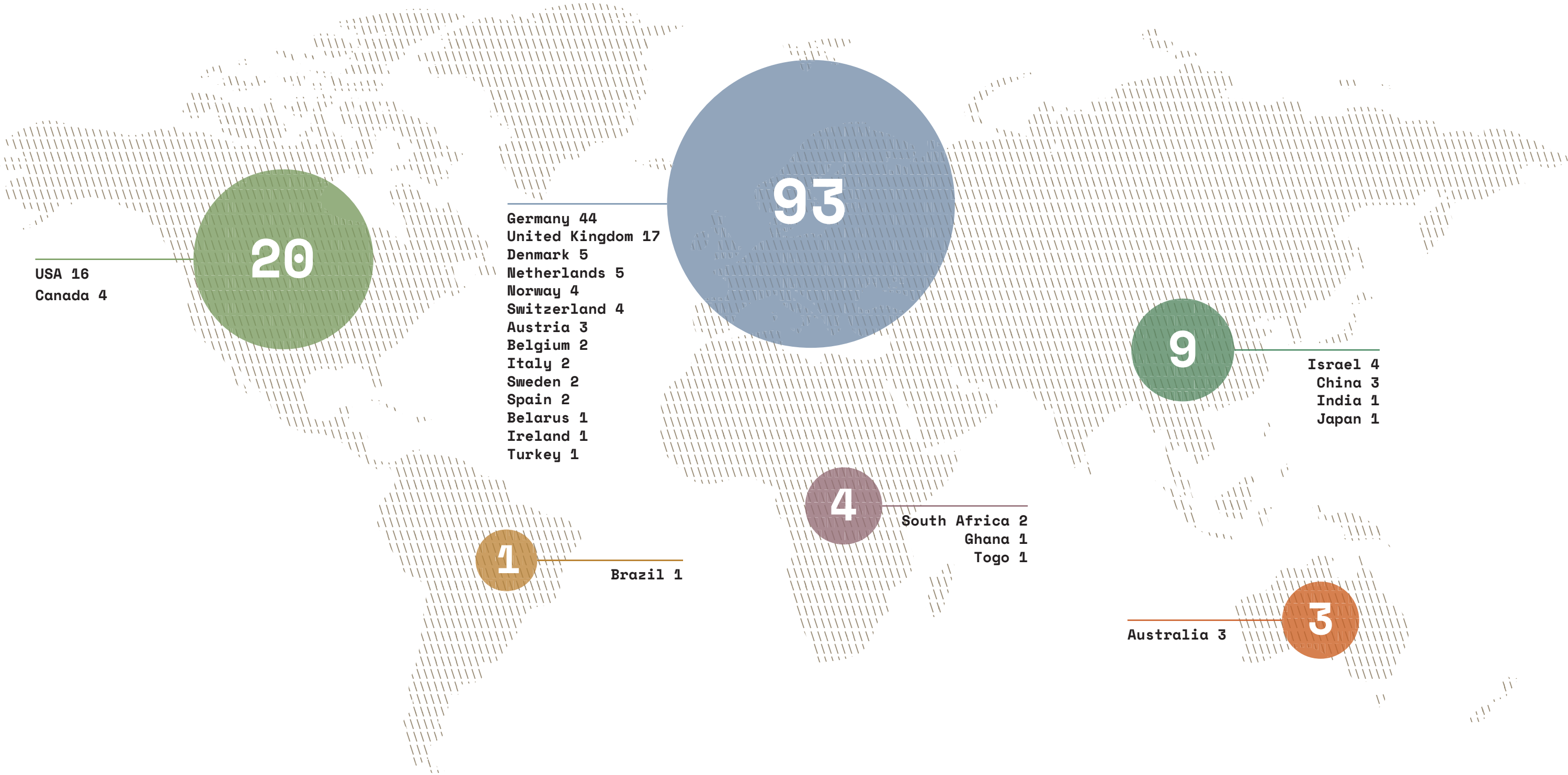
At the one-day virtual workshop “Time and Self-Management” on February 15, 2021, trainer and consultant Christiane Kasack taught eleven doctoral and postdoctoral researchers time and self-management tools for day-to-day research and everyday life. The focus was on sharing their own methods of peer coaching and group work phases. The content of the lectures and the results of the joint activities were comprehensively documented and prepared for transfer to the personal working environment.

The Weizenbaum Institute for the Networked Society, the Bavarian Research Institute for Digital Transformation (bidt) and the Center for Advanced Internet Studies (CAIS) signed a cooperation agreement for career development in February 2021. The aim is to bundle competencies in human resources development and to prepare academic talent for a career inside and outside academia by offering qualification and networking opportunities. In addition to the joint planning and conducting of events, the cooperation between the three institutions also includes the establishment of a pool of trainers, mutual participation in qualification programs, and the promotion of networking, for example through mutual research residencies at participating institutes. In addition, a working group will be formed for regular exchanges on career development measures, such as the development of program offerings, qualification standards, and methods of interdisciplinary collaboration.

The inaugural public event of the three institutions was held virtually on June 10, 2021. The “Digitalisation Research and Network Meeting” (DigiMeet) provided opportunities for doctoral researchers to network, share their findings and ideas, and gather inspiration for new and ideally collaborative research projects. The key topic of the first meeting was: “Sustainability in digital transformation: charting new terrain, exploring tensions”. In addition to two high-profile opening and closing lectures by Ortwin Renn (Institute for Advanced Sustainability Studies e. V.) and Elisa Lindinger (SUPERRR Lab), the English-language program in the morning consisted of thematic panels with presentations by PhD students from Germany and abroad on topics such as sustainability, digitalized economies, the consequences of digitalization on the world of work and everyday life, and much more. In the afternoon, seven open forums took place in parallel. The input consisted of lectures, book launches, presentations and discussions on self-selected work areas, such as transdisciplinarity, transhumanism, collaboration in digital work environments or sustainable data generation and management. Following this successful kick-off event, cooperation with other digitalization institutes in Germany will be expanded and intensified over the coming months.

2.6 Internationalization

Since 2017, the Weizenbaum Institute has hosted 130 research fellows from 25 countries.



Digitalization research is unthinkable without global interaction. That is why the Weizenbaum Institute encourages its experts to network with cooperation partners abroad. By doing so, we strengthen the excellence of research collaborations and expand the international visibility of the institute.

In order to promote international networking, several measures have been implemented since the founding of the institute. For example, within the framework of the fellowship program, numerous established researchers as well as doctoral and postdoctoral students from abroad have been invited to the Weizenbaum Institute for research residencies. In these contexts, new scientific findings were presented at Fellow Talks and joint research projects initiated.

Equally central are the inter-institutional cooperations, which were initiated either in the course of the further development of the research focal points of research groups, or strategically at the level of the directors. These measures are complemented by the researcher-in-residence program, which enables doctoral and postdoctoral researchers to conduct research abroad in order to gain experience at other leading institutions. In addition, the success of the research groups is also measured by their global presence, for example through participation in international conferences and collaborations with experts from other countries. Due to travel restrictions in the wake of the COVID-19 pandemic, numerous planned research residencies from renowned guests to the institute and by our experts abroad had to be canceled, postponed, or even shifted to the virtual sphere and take place as reduced dialog formats during the reporting period. Nevertheless, an intensive and continuous exchange of ideas took place at the global level.

A few select examples of international cooperation between the research groups during the reporting period will illustrate how both our four research areas and the entire consortium benefit significantly from cross-border collaboration, and how the implementation of the institute's research agenda is stimulated in numerous ways by these collaborations. In addition to a large number of publications by all research groups in renowned international journals, the research group "Working in Highly Automated Digital-Hybrid Processes", for example, has established a research network on the topic of digitalization and shifts in global value chains with partners at Duke University (USA) and Baptist University in Hong Kong (People's Republic of China). The research group "Work and Cooperation in the Sharing Economy" publishes the multilingual blog "PLAMADISO" and organizes an ongoing lecture series on "Platforms, Markets, and the Digital Society". Furthermore, the research group "Reorganizing Knowledge Practices" operates a DFG-funded research network on strategy processes in the context of the digital transformation with scholars from Austria, Germany, Denmark, Switzerland, and the United Kingdom.

The concept paper on the future of the Weizenbaum Institute underscores the growing strategic role of internationalization processes over the coming years. Internationalization should not only optimize the profile of one's own location in the form of benchmarking. International networking also helps to identify gaps in the research landscape and to work on them collaboratively, decentrally and on a wide scale. In this context, the Weizenbaum Institute aims to provide orientation, networking and infrastructure services for global digitalization research.

As this review of the fourth year of the Weizenbaum Institute shows, the institute has grown considerably in all key areas: in research, in dialog with society, in networking within digitalization research, in the promotion of new talent, internationalization, as well as planning the future of the institute. More in-depth insight into a selection of work performed by the research groups over the past twelve months is given in the following dossier section.

III.

Dossier

3.1 “Copyright law today focuses strongly on non-professional authors”



Simon Schrör leads the research group “Shifts in Norm Setting” and focuses on issues of intellectual property and the digitalization of cultural goods industries, particularly in the context of the sociology of law and conventions.

At the end of 2020, the anthology of the last conference that was able to take place at the Weizenbaum Institute before the Corona lockdown was released as an open access publication: “Tipping Points. Interdisziplinäre Zugänge zu neuen Fragen des Urheberrechts” (Tipping Points. Interdisciplinary Approaches to Emerging Issues in Copyright). The volume brings together 13 research contributions by authors from the fields of law, music, literature, history, and sociology. In an interview, Simon Schrör, head of the research group “Shifts in Norm Setting” explains why copyright law is relevant to so many disciplines and how to help ensure the success of interdisciplinarity.

Today's copyright laws lead to thousands taking to the streets and ties up the courts in years of litigation. What has contributed to this legal field having such potential for conflict for so many people today?

Ever since copyright provisions came into effect, the relationship between copyright holders, publishers, and consumers has been a strained one. With digitalization in recent years, copyright has gone from being an obscure, specialized topic that only a few professionals had to deal with to a legal field that suddenly concerns many people. It affects everyone who publishes music, videos, images or texts on the internet – not necessarily professionally, but simply through their interactions on social media, for example – and by doing so reaches such a large audience that it becomes relevant to copyright law. Consumers also feel the impact of copyright when content that was previously available online suddenly becomes unavailable, such as during the long-running dispute between Gema and YouTube, which has since been settled.

How would you summarize the current situation as it relates to copyright? What is its relevance to the networked society?

The major copyright reform passed in the EU in 2019 is currently being implemented in the member states, including Germany. This marks a change in de facto law. Some contributions to our anthology also reflect on a whole series of relevant court decisions that have changed copyright law. These often concern special topics where there is great legal uncertainty, for example sampling, i.e. the use of small and very small parts of works in music. In some cases, this leads to decades-long legal disputes, as in the case of “Metal

on Metal” between the group Kraftwerk and the music producer Moses Pelham. However, it can be said that the focus in copyright law is strongly directed towards non-professional authors, the “prosumers”, who consume and produce at the same time.

In the call for papers for the conference, you suggested that interested participants should let themselves be guided by a figure of thought, namely “tipping points”. How did the conference participants respond to this?

Very differently. Many topics in the academic study of copyright can be summarized as dichotomies, and tipping points are a good way of describing them. For example, the relationship between freedom and restriction or between works which merit protection and works which do not. For example, in a quantitative analysis of sheet music data from contemporary pop music, two music researchers have examined the question of when the protection of a melody is at all justified under copyright law.

To a much more profound degree, the author of a historical analysis on the role of music licensing companies utilizes this figure of thought. He describes technical and legal developments and reactions to them as a historical process without explicitly making tipping points the subject of his analysis. My Weizenbaum colleague, legal expert Sophie Beaucamp, and I focus on the tipping point – which is interesting both from a sociological and legal standpoint – at which low-budget music in hip-hop turns into a professional production. We examined the extent to which the protective logic of copyright law can also accommodate these artists who are at the tipping point, and how the legal freedoms and boundaries which are of great significance in externally referencing music can be explored here.

In your interdisciplinary collaboration, how did you go about describing the situation in which this particular group of creators finds itself today?

In legal scholarship on copyright, the debate on sampling takes up a lot of space. Sophie Beaucamp's legal analysis is our main contribution to this debate. From a sociological point of view, I as a co-author was able to ground the analysis by showing, empirically underpinned from a systems theory perspective, how sampling in hip-hop is an integral cultural technique that cannot simply be abandoned due to legal uncertainty.

These producers are stuck in a trilemma: It's not just the legal situation, it's not just the artistic content, and it's not just the licensability that determines whether they end up with a song that works and finds an audience, but the interplay of all three forms of logic. That's what you have to take into account in legal evaluations, because if the law is going to regulate something in the real world, it needs to recognize real-world conditions. Thus, in our paper, Sophie Beaucamp arrives at a jurisprudential argument that recognizes the cultural necessity of sampling and proposes that it be recognized as a citation, thus making it legally sound.

How does one communicate within such a diverse community of researchers as brought together in the anthology, but also at the Weizenbaum Institute in its research groups?

Communication is indeed one of the greatest practical challenges of interdisciplinary work: We research the same subject matter, but with different perspectives, vocabulary, and methods. The Weizenbaum Institute has now worked out the perfect axioms for ensuring that interdisciplinary work is fruitful. This includes the acceptance that terms are used quite differently in different disciplines, and the openness to engage with the findings of the other disciplines, also in terms of substance. We also applied these principles at the conference, where commentators from outside the respective discipline provided opening statements on all contributions. By doing so, we initiated the interdisciplinary discussion. Our goal at the conference was to use the perspectives of other disciplines to identify flaws and ambiguities, to check assumptions, to obtain stimuli, and to use this interdisciplinary intelligence to make the participants' working papers – whether they were monodisciplinary or interdisciplinary

from the outset – more robust along their way to becoming published papers.

The conference was organized in collaboration with the copyright committee of Gesellschaft für Musikwirtschafts- und Musikkulturforschung e.V. (Society for Music Business and Music Culture Research). What role do collaborations play in the context of interdisciplinarity?

Collaborations create networks, which are immensely important for us at the Weizenbaum Institute, for example in promoting our calls for papers, but also for long-term interdisciplinary exchange. We benefit from each other: The infrastructure, reach, and resources of the Weizenbaum Institute are key success factors for hosting such a conference. The open access publication, which greatly increases the visibility of the contributions, also came about with the help of funds from the Weizenbaum Institute.

How will copyright research continue to concern us in the future?

Many researchers are examining its largest and most manifest development: the EU copyright reform. The discourse leading up to the reform has been incredibly polarized. Some saw the end of all freedom, while others saw the end of all exploitable art. How the new law affects artistic freedom, the exploitability of art, and the power of platforms will intensely engage scholars in various disciplines over the coming years. Furthermore, as society's body of knowledge becomes increasingly digitalized, aspects of digital archival will continue to have enormous importance in the academic copyright debate.

Thank you for the interview.

3.2 Omnipresent and “always on” – Sensors as surveillance tools

Jacob Leon Kröger



Smartphones and smartwatches, our daily mobile companions, are full of sensors that can reveal a lot about us – much more than most users realize. Author Jacob Leon Kröger, a doctoral student in the research group “Responsibility and the Internet of Things”, examines exactly what data is collected by sensors and what information can be derived from it.

It is not only when we surf the internet that how we behave and what actions we trigger are extensively recorded. Data collection and monitoring are expanding deeper and deeper into the physical world as well through various types of internet-enabled sensors. Ever since the omnipresence of smartphones, we are constantly surrounded by sensors no matter where we might be – at work, on the road, or in our own homes. Many of these sensors are “always on”, i.e. constantly operating. Many are practically invisible and most people do not even know them by name. Both professionally and privately, I experience in conversations that most smartphone owners can name less than half of the sensors that are in their devices. Increasing networkedness in the emerging Internet of Things will increase the number of sensors in our everyday lives many times over. Numerous sensors embedded in our devices and in public and private spaces transmit their measurement data to government agencies or businesses. This includes devices such as tablets, smartphones, laptops, fitness trackers, smart speakers and VR glasses.

The new technical possibilities that arise from increasing networkedness can contribute to making our society safer, more productive, healthier, and more environmentally sustainable. Yet at the same time, the question arises: What can all this sensor data reveal about us – perhaps even without our knowledge and against our will?

There exists a large body of interesting experimental studies from fields such as psychology, medicine, and human-machine interaction that answer this question at the micro level. They include, for example, studies in which individuals’ daily routines are monitored via motion sensors in their smartphones, or where personality traits are inferred from speech recordings that are otherwise trivial in terms of content. These studies demonstrate that highly sensitive personal information can be derived even from supposedly innocuous sensor data. However, to date, the available knowledge from these studies has rarely been structured and summarized at the meta level, in particular from a privacy perspective.

It is precisely this gap that I am trying to fill by working together with colleagues from various other research institutes and universities. In addition to research literature on experimental studies, we also include patent documents and descriptions of commercial products and compile what personal information can be derived with the aid of modern analysis methods, for example from eye tracking data, voice recordings, and from the data of smart electricity meters or acceleration sensors.

The societal relevance of this research becomes particularly apparent when one considers the rapid pace at which new technology trends such as eye tracking or voice control are currently being promoted. In voice recordings, for example – apart from the content of what is being said – the voice and phrasing of the speaker can reveal information about biometric identity, physical characteristics, geographical origin, emotions, alcohol consumption, age, gender, as well as physical and mental health.

Such information can be derived not only from the accent, sociolect, word choice, speech tempo and rhythm of the speaker, but also from the acoustic properties of what was said, such as the frequency spectrum and loudness of the voice, intonation, nasality, hoarseness, and from non-verbal sounds such as breathing, crying, sneezing, or coughing. A wide range of signal processing methods can be applied to extract hundreds or even thousands of usable speech parameters from even just a short audio recording.

The range of information that can be derived from accelerometer data is similarly broad. Accelerometers have little presence in the media, yet they are the most widely used type of sensor in mobile devices. Because the data from these sensors is often mistakenly considered to be entirely non-sensitive, various parties, such as mobile apps or website operators, can often access it without the knowledge and consent of users. However, there exists no small amount of evidence in the scientific literature that accelerometer data can be used to infer users' activities and daily routines, emotions, health status, driving style, consumption of cigarettes and alcoholic beverages, as well as their identity. Studies have also shown that such sensor data can be used to reconstruct passwords entered via a touchscreen and to locate users against their will, even when GPS is deactivated. Unfortunately, existing technical and legal safeguards do not provide reliable protection against the unwanted inferring of sensitive personal information from sensor data.

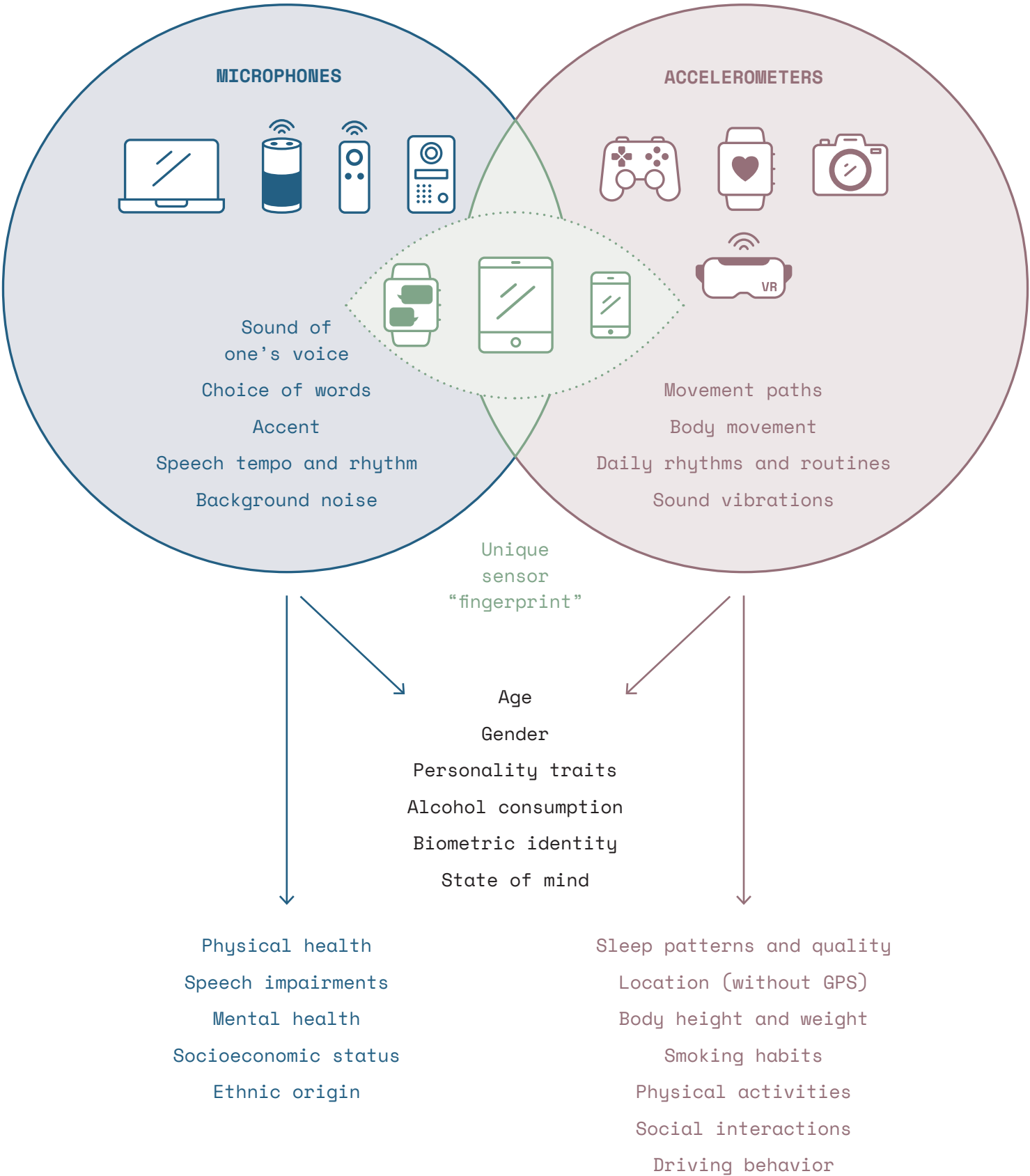
Several studies are currently being conducted in which I investigate what feelings, concerns, and knowledge users have regarding sensors and the various ways in which their data can be analyzed, as well as the resulting regulatory implications and policy recommendations from the findings obtained so far. In addition, I am also collaborating with researchers at Goethe University Frankfurt and the Japanese telecommunications company KDDI on a method for quantitatively assessing the privacy sensitivity of sensors.

With researchers from the Universities of Hamburg and Bamberg, I conducted a four-year undercover study in which we investigated the extent to which mobile apps comply with privacy disclosure obligations. Although the introduction of the European General Data Protection Regulation, one of the world's most extensive data protection laws, fell within this period, we found that the compliance with data protection by most of the app providers we reviewed remained as unacceptable as it was at the beginning of our study back in 2015. Surprisingly, compliance actually worsened toward the end of our study despite the threat of severe penalties since the new law came into effect. Persons seeking information about the data collected and stored by apps often come up empty-handed with their request, are sent unusable information or dead links, or encounter other communication problems. Legal security requirements were also often disregarded; in most cases, for example, the identity of the person submitting the request was not even verified, and in some cases data was sent unencrypted by e-mail.

We presented our study at the ARES 2020 conference, where it won the Best Paper Award. Fortunately, it also attracted a great deal of interest in the media.

Data protection authorities clearly lack the resources to effectively enforce the legally mandated protection of personal data and the transparency of its processing. Another cause for concern is that people are not even aware that sensitive information can be derived from a great portion of the data collected by means of sensors, by using of state-of-the-art analysis methods. As supposedly harmless data, they are often not regulated, and are also not sufficiently protected technically, despite the fact that a wealth of highly sensitive information can be obtained from them. Methods for assessing the privacy of sensor data are therefore urgently needed, as is a critical review of some of the unrealistic basic assumptions and possible loopholes in our data protection laws.

WHAT INFORMATION CAN BE DERIVED FROM SENSOR DATA?



3.3 An ad-financed model for online courses

Gergana Vladova and Leo Sylvio Rüdian



An interdisciplinary team: Economist Gergana Vladova and computer scientist Leo Sylvio Rüdian have developed a concept for financing online courses via personalized advertising.

Economist Gergana Vladova, head of the research group “Education and Advanced Training in the Digital Society” and computer scientist Leo Sylvio Rüdian have jointly come up with a plan for using advertising to fund high-quality online courses created in public educational institutions and make them accessible for longer periods of time and to larger groups of participants.

Particularly in the Corona era, but also before that, instructors have designed online courses for their students with great effort and often a high level of professionalism. Unfortunately, such courses are often only available digitally for a limited time, or are not further developed. Many high-quality courses are lost because e.g. there is a lack of funds to maintain them over a longer period of time after project funding has expired.

For Leo Rüdian, it is inconceivable that online courses created with public funds or by teachers or students in their free time should subsequently be exploited by a commercial provider and made available to users in return for payment. “We therefore conceived of another solution and came up with a concept for financing online courses through personalized advertising. Just like Google does it. But the most important part of the concept is that we still want to ensure that the quality of a course offering determines where it is listed among the search results in a portal, not how attractive it is to advertisers.”

The researchers recently discovered that the mouse clicks made by participants in an online course can be used to predict personality traits – which in turn is of great interest to providers of personalized advertising. On the one hand, participants in online courses can be analyzed according to their clicking behavior based on a model (named after its inventor G. Hofstede) along six cultural dimensions: Power Distance, Individualism, Uncertainty Avoidance, Long-Term Orientation, Masculinity, and Indulgence. In addition, click behavior also allows for the prediction of a subset of the “Big Five” personality traits, known as the “OCEAN” model. “Actually, the fact that clickstream data lends itself to such predictions is one we mostly stumbled upon, and not one that we were explicitly looking for”, Vladova reports. Prof. Niels Pinkwart, who supervised Rüdian’s research, also

explains: “What we were originally interested in was whether it was possible to tell from user behavior how a course offering could be customized to improve learning success for the individual.” To evaluate the click data with a focus on personality profiles, the project fed a neural network, i.e. an AI, with data generated by test participants during a one-hour online course on the topic of search engine optimization. In parallel, the subjects had to fill out questionnaires in the manner that is regularly used to diagnose cultural dimensions and personality traits. Subsequently, the results from the questionnaires were compared with the AI predictions and matches were validated with the use of statistical methods.

“Our results show that an AI trained with clickstream data can predict with up to 80 percent accuracy how someone will perform on a personality test”, said Vladova, summarizing the findings.

Because the AI used has the character of a black box whose inner workings cannot be reconstructed from the outside, it is not even possible to say exactly why the click data makes such powerful predictions. “We ourselves can only speculate”, explains Rüdian. “One possibility that seems plausible to us, for example, is that the manner in which someone in an online course might first get an overview of all the assignments before they proceed to work out solutions could be an indication of how that person generally hedges their bets for the future.”

For advertisers looking to place tailored ads, information about personality traits is infinitely more valuable than mere information on geographic location or demographic data. Furthermore, the exploitation of user profiles does not actually need to generate particularly large sums. A few hundred euros will probably be enough to cover the costs incurred during a year of technical maintenance for a course and integrating it on a platform. Rüdian: “We are aware that such an advertising model could be used to generate large sums of revenue. According to our concept, if any money is left over, it would be used to pay additional tutors in order to be able to personally supervise the participants of the course, at least for part of the way.”

Vladova and Rüdian are aware that the evaluation of online user profiles for advertising purposes is not always welcome, even if it can be used to finance free services. “We don’t want anyone to be spammed with ads. On the contrary: From studies, we know that targeted, personalized advertising in particular is not perceived as a nuisance by many people, but instead as useful information.”

To find out whether their plan would appeal to potential users, the project conducted a survey on 750 persons who had made themselves available for online market surveys via a commercial provider. Almost three-quarters of respondents said they would not flatly reject the use of their data for targeted, personalized advertising if an online course were to be offered free of charge in return. However, the survey data also indicates that users have little idea of all the information that can be gleaned from their click behavior. Just under 30 percent of respondents were of the opinion that an AI could identify personality traits based on behavior in an online course.

“To assess the quality of online courses, we have already developed a set of criteria and tested them with the aid of our students”, reports Vladova. The reason for this is a practical one: In the seminar supervised by her and Rüdian, instead of writing a term paper, students can create an online course of their own. “If they are good, even such courses developed by students could be made available publicly and free of charge via a platform like the one we outline in our business model concept.”

Launching a platform of their own which utilizes advertising for funding is not on the agenda for Vladova and Rüdian at the moment. “We are researchers. As such, we develop functional demonstrators and prototypes.” Naturally, this does not mean that a spin-off would not be possible and perhaps even attractive. Where does Rüdian see his own role in such a spin-off? “I think my position would be more on the platform management side. Someone whose position is funded by the advertising revenue, but who is himself not involved in the advertising business. Instead, he would be committed solely to the goal of keeping a high-quality course offering alive.”

3.4 “In the Global South, open resistance against poor working conditions is difficult”



Sana Ahmad's dissertation project explores the hitherto little-known industry of commercial content moderation and its labor practices.

Large internet service providers such as Facebook, Amazon, Twitter, Google and YouTube employ people worldwide who filter and, if necessary, delete content from users. This task is often outsourced to low-wage countries. A conversation with Sana Ahmad, PhD student from the research group “Working in Highly Automated Digital-Hybrid Processes”, who met people in India who were willing to talk about the work processes of commercial content moderation.

In the discussion revolving around social media, the deletion and blocking of content is a particularly sensitive topic. Behind these activities is a job called “content moderation”, which is the subject of your research. What exactly is it, Ms. Ahmad?

The origins of content moderation go back quite some time. It began as volunteer-driven community management for text-based social communities on the internet. As social media companies evolved, professional moderators were introduced to encourage user activity on websites. Today, the term “content moderation” describes the screening of user-generated content posted on websites, social media, and other online formats. Much of the current discourse on this policing of content focuses on social media. However, such screening of user-generated content also takes place with other companies, such as online retailers. On social media platforms, content moderation is used to protect users from harmful content, but also to sustain communication activities and thus generate advertising revenue for companies, for example.

What interests other than profit maximization compel social media platforms to engage in content moderation?

The political pressure on social media platforms to regulate posted content is immense. Sometimes, taking action against certain types of content may even be a prerequisite in order to access markets. On the other hand, social media have come under criticism because they are now an important part of the public sphere and their content moderation practices may result in restrictions on the freedom of expression of platform users.

You argue in your study that content moderation is deliberately made invisible by platforms. What do you mean by this?

It is very difficult for the media and researchers to examine the details of how content moderation is implemented. We now know that social media platforms outsource this activity extensively to contractors in the Global South. But we know very little about what rules content moderation follows and what the working conditions are like for content moderators. This work is deliberately made invisible. Social media companies argue that this protects the identities of content moderators, while at the same time preventing users from attempting to circumvent content moderation. Critics counter that the social media platforms are simply shirking their responsibility to establish transparent rules and decent working conditions.

Where do internet service providers outsource their content moderation to and what factors determine the choice of location?

India and the Philippines play an important role because they have a long tradition of outsourcing labor-intensive IT services. However, we also see content moderation jobs in the USA or Germany, most of which are rather poorly paid. Much of the outsourcing of content moderation is definitely motivated by the search for low labor costs. Content moderation jobs are highly standardized and therefore relatively easy to outsource. However, the language and cultural skills of the workers remain important.

What kind of jobs have been created in India as a result of the outsourcing of content moderation? And what kind of people do they employ?

These are low-paid services, even by Indian standards, which require relatively few qualifications. Despite this, the content moderators often have university degrees. In India, the export orientation of the IT services industry has created the paradoxical situation whereby companies tend to hire higher-qualified IT workers for their low-wage jobs in order to impress clients from the Global North. Since the Indian IT labor market consists mainly of such low-paying jobs with low skill requirements, graduates have little choice. Usually, they apply for these jobs without having much information about the tasks they will need to perform. They are required to sign confidentiality agreements and are prevented from talking about their work.

What kind of work do content moderators perform exactly?

Similar to an assembly line, the content moderators are shown content that they have to process according to a strictly prescribed procedure and with extremely tight deadlines. This content is often stressful and they have hardly any say in the pace of their work or the way they work. The fluctuation rate is very high and many employees report psychological problems. Under these conditions and with increasing competitive pressure, the leeway for upgrading the tasks, but also for effectively enforcing employee rights and social welfare, is severely limited.

How do content moderators cope with the pressure you describe?

We know from research that it is often difficult for workers in the Global South to openly resist poor working conditions. Yet, Indian content moderators are not passive. My research shows that workers are attempting to secure a degree of autonomy and opportunities for development in a variety of ways. For example, they often coordinate the pace of their work as a team to reduce pressure. They complain when supervisors do not treat them with respect. And they invest their own time and money in further training because the companies do not. The hope is that this will open up avenues of advancement for them, such as when companies seek well-qualified content moderators as local experts for markets in the Global South.

What was your experience as a researcher in India? How difficult was it to get a glimpse behind the scenes of content moderation?

I spoke with managers of Indian companies, content moderators, unions, and civil organizations. This fieldwork was of great importance because we have very little empirical data on content moderation. The biggest challenge was getting access to content moderators in the first place. It is not an official job title, which is why it is hard to find these people. I searched the internet for relevant profiles and wrote to companies and people. What was striking was that no one from the management of global social media companies wanted to talk to me – content moderation is top secret there. It was only after a long search and a great deal of persuasion that I managed to get Indian companies and their employees to agree to interviews, as they are officially forbidden from talking about this work. Weak trade unions and other civil organizations are also a problem. Companies simply do not feel compelled to consider the concerns of employees. Hence, I had to take special care to ensure the anonymity of the interviewees, both during and after the collection of data.

Your research lies at the intersection of the sociology of work and communication studies. Which discipline do you feel you belong to more?

On the one hand, social media platforms have the function of organizing communication on the internet. To understand their role in this respect, the perspective of communication studies is important. At the same time, they are the employers of content moderators, and the manner in which they manage, control, and shape the conditions of this work is a classic topic of the sociology of work. Even though it is not always easy to reconcile these two very different academic spheres, I try to bring both perspectives together in my research.

Thank you for the interview.

3.5 The Data Governance Act – Sharing data at the expense of privacy?

Prisca von Hagen and Zohar Efroni



Prisca von Hagen and Zohar Efroni work in the research group “Frameworks for Data Markets” and research the workings of digital markets.

In November 2020, the European Commission published its draft Data Governance Act (DGA). The DGA is a regulation that formulates rules and structures in the context of creating a single European market for data. These new rules and structures aim to create an environment where access to data is facilitated and everyone can benefit from greater data traffic. The research group “Frameworks for Data Markets” has examined the extent to which the standards laid out in the draft DGA are consistent with EU data protection regulations.

Whether it is private individuals, businesses, or public agencies, all of them generate, use, and collect large amounts of data. These sets of data may contain both non-personal and personal data, and thus potentially particularly sensitive data, such as location or health data. In the modern world, this variety of data can be used to develop further technologies and innovations. The use of larger volumes of data is particularly important in the mobility sector, e.g. in research on autonomous driving and in the development of AI systems. However, people often refrain from releasing or sharing data due to uncertainty regarding the legal situation, a lack of trust, or a lack of expertise on the part of those involved. The potential of data utilization for business and society is therefore far from exhausted. But how can data traffic be stimulated?

European legislators are attempting to address this issue as part of the European data strategy. Among other things, by creating a legal framework for data governance. The DGA aims to increase trust among stakeholders and thereby incentivize the sharing of data. The draft of this new law was first presented on November 25, 2020. The DGA is one of several legislative measures intended to provide the legal framework for European data spaces and the European data economy as a whole.

Increased trust is to be achieved via three categories of measures, which take into account the respective stakeholders and the type of data exchange: First of all, access to data held by public bodies is to be facilitated. Secondly, a legal framework is to be introduced for data intermediaries, who are to be responsible for making data available subject to specified conditions. For example, these data intermediaries would be required to price the granting of rights of use fairly, or to possess suitable technical infrastructure. They would act as interfaces between the parties or assist with technical implementation, such as the anonymization of data. Another category of measures involves establishing a legal framework for data altruism, the voluntary “giving away” of data at no charge for charitable purposes. Data altruism organizations can be officially recognized and registered as such if they satisfy certain requirements. In this manner, legal certainty is to be created for the provision of data.

The research group “Frameworks for Data Markets” took a closer look at the draft DGA as one of the core elements of the European data strategy and examined the reactions of stakeholders. Nearly 150 comments were received on the proposed legislation, of which a representative selection was analyzed by the research group. It summarized the points of criticism and added key points from the joint opinion of the European Data Protection Board and the European Data Protection Supervisor. It became clear that, among other things, two requests were reflected in the opinions of various stakeholders: Firstly, greater clarity was needed on the relationship between the DGA and the General Data Protection Regulation (GDPR). Secondly, the law should include clear definitions of “data intermediaries” and “data exchange services”.²

Thus, although increasing data traffic is a desirable goal due to the high social and economic benefits, it has yet to be clarified what effects the introduction of these standards will have. The research group specifically examined the legal aspects of the DGA in terms of its compatibility with the GDPR, as it is expected that much of the data that will be exchanged will be personal in nature and thus fall within the scope of the GDPR. Accordingly, data protection aspects must not be neglected in addition to economic objectives.

The GDPR, which was introduced a few years ago, establishes protections for personal data which are unique worldwide. In light of this, the question of the compatibility of the GDPR with the DGA is of particular importance. The research group therefore analyzed the extent to which the two legal regulations are mutually compatible.

The possibility of excluding personal data from the scope of the DGA and thus avoiding any points of contact with the level of protection afforded by the GDPR is not an adequate solution to problems of compatibility. Doing so would cause the DGA to lose much of its effectiveness, as a significant proportion of commercially relevant data is of a personal nature. Instead, the research group attempted to develop approaches to make the DGA more integrative, even with the inclusion of personal data. From a systematic perspective, it was noticed that the applicability of the GDPR has so far only been mentioned at certain points in the DGA. However, it is of fundamental importance that this be specified at a prominent point of the entire legal act in order to prevent misunderstandings. In order to reconcile both laws, it is also necessary to align the terminology used. In addition to a general note, the focus group also proposed specific amendments to this end. One proposed amendment, for example, pertained to the term “data holder”.

² A summary of the stakeholder critique of the draft DGA is available on the website of the Weizenbaum Institute:

https://www.weizenbaum-institut.de/media/Publikationen/Diverse/Blogpost_DGA_Criticism_2021.pdf.

In the Commission's draft, it is described as a natural or legal person who is authorized to grant access to data under their control. However, as far as personal data is concerned, the GDPR already has the term "data subject". It would therefore make sense to use both terms in the DGA depending on the type of data provided, in order to reconcile both legal regulations. In this case, "data subjects" would be used whenever personal data is involved, while the term "data holder" could be used when accessing non-personal data.

The research group's work on the compatibility of the DGA and the GDPR was part of a cross-institutional working group "EU Data Regulation" that set itself the task of shedding light on both the positive and negative aspects of the DGA. The findings of the entire working group have been published in a thesis paper.³ Overall, the group aims to stimulate debate on important aspects of the draft DGA by doing so. Apart from the proposals on the compatibility of the DGA and the GDPR, the opinion deals in particular with the potential risks of creating a uniform structure for data intermediaries. It also addresses the challenge faced by data exchange services of providing data in a non-discriminatory manner, and the ways in which supervisory authorities should intervene in the exchange of data.

³ The position paper was published here: <https://www.ssoar.info/ssoar/handle/document/74538>

3.6 Citizen-centric language: Do you speak digital?

Stefanie Hecht and Fabian Kirstein



Stefanie Hecht, an industrial engineer, and Fabian Kirstein, a computer scientist, are working together in an interdisciplinary project team.

How can interested citizens be assisted in their search for publicly accessible data? And how can people who are less tech-savvy also successfully participate in experimental digitalization labs? For author Stefanie Hecht, a doctoral student in the research group “Data-driven Business Model Innovations”, and author Fabian Kirstein, a doctoral student in the research group “Digitalisation and Science”, language is the key to improving digital participation in both cases.

“Easy” language, gender-inclusive language, non-discriminatory language – in a society that is becoming increasingly heterogeneous and which also recognizes this heterogeneity, language is a much-discussed topic. Public administration and the judiciary have also had to take into account easy language (Leichte Sprache) as a requirement for their websites and digital solutions ever since the Barrier-Free Information Technology Ordinance (BITV 2.0). In addition, officialese and the language used by German administrations – often in an effort to be formally correct and legally precise – is unwieldy and difficult to understand. Residents of the country will probably be familiar with creative turns of phrase that loosely translate as “spatially comprehensive large-scale greenery” or “demand-controlled pedestrian ford”. In addition, this mellifluous language used by the authorities is now intersecting with changing, more informal linguistic behavior in the wake of digitalization. Digitalization is characterized by a multitude of buzzwords, and at the same time, digital solutions are by their very nature technical solutions that are sometimes also characterized by technical language. Hence, in order to address citizen-centric and inclusive language, we also require the involvement of potential user groups in the software development process. We would like to present methods that could help with this.

An example of an application: In an open government data portal that provides access to open administrative data, we have a highly heterogeneous usage landscape: It ranges from data journalism to civil society and the administration itself. These sometimes differ in their affinity towards technology and thus also in their understanding of technology. In a collaborative project by the research groups “Data-driven Business Model Innovations” and “Digitalisation and Science”, we therefore asked ourselves whether citizens understand this data at all, or more precisely the metadata.

Every data record in an open government portal is described using metadata to ensure that the data can be found. In principle, metadata is data about data in a highly structured form. If metadata is not fully described because e.g. keywords, a categorical classification, a spatial or a temporal reference are missing, the quality of the data records suffers. Furthermore, citizens may be unable to find the data, leaving its potential unused. Therefore, metadata usually follows a certain schema that defines optional and mandatory metadata fields. In Europe, a specification based on the World Wide Web Consortium’s data catalog vocabulary for public sector metadata (DCAT Application Profile for data portals in Europe, or DCAT-AP for short) is available for the purposes of open government portals. In practice, however, software developers must choose which metadata will primarily be presented to citizens on an open government data portal so as not to overwhelm users.

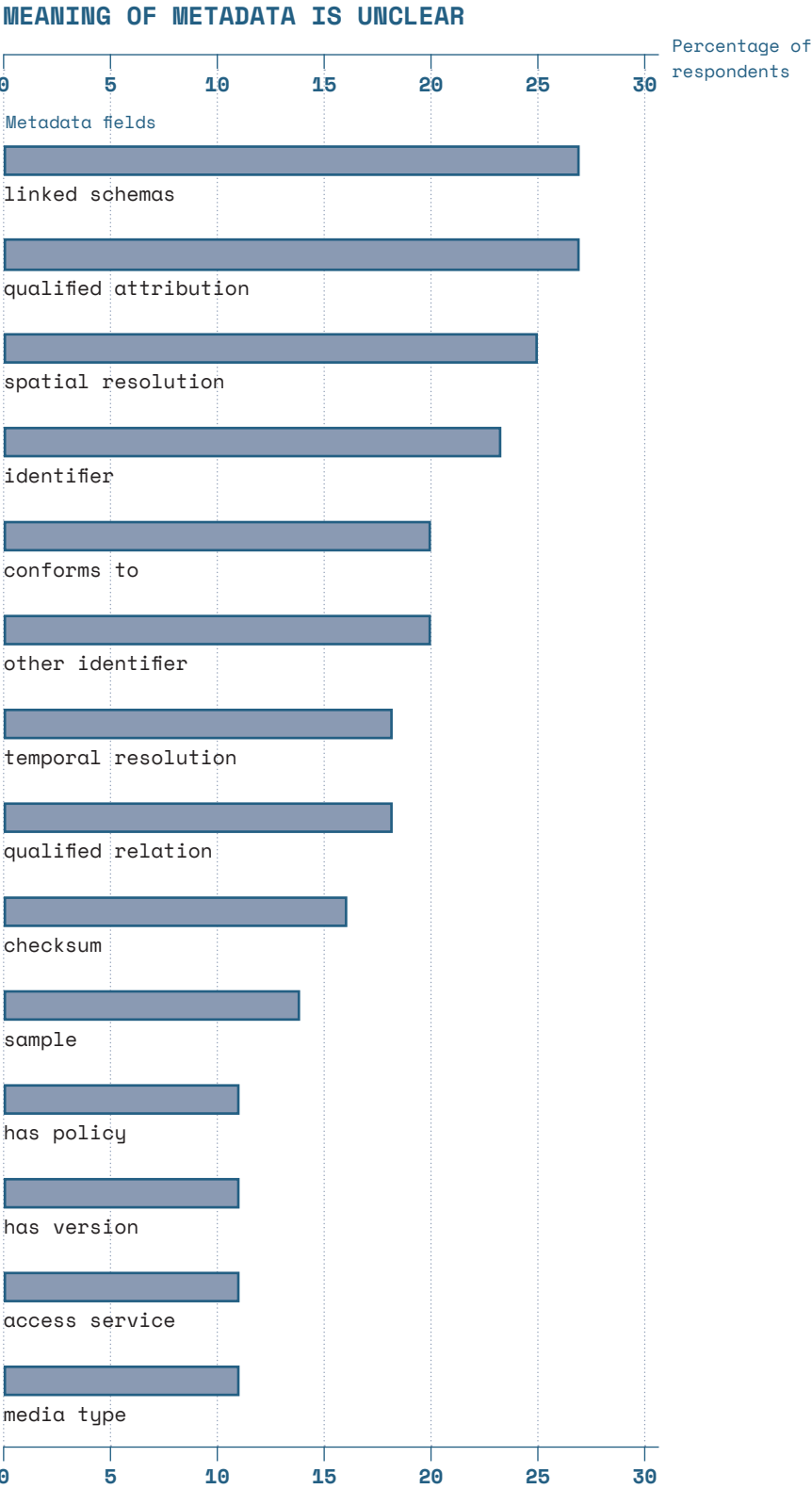
We applied a method that performs this selection empirically: It is called card sorting. Normally, it is used to develop usable navigation or menu structures for software applications with the involvement of users. In card sorting, terms are written on cards and sorted by participants into thematically related groups. The groups created in this manner are then used to group menu items and control options. We modified the method slightly for our purposes. For over 50 terms used in naming metadata fields, we asked a group of subjects how they would rank each term on a scale whose extreme points were “important” and “unimportant”

The metadata fields “description”, “title”, “release”, “creator”, “update / modification date” and “download URL” were of particular importance for the participants. These fields should therefore be prioritized accordingly in the design of the user interface to provide a quick overview.

Another response option in our survey was “I don’t understand the term”. As expected, metadata fields characterized by technical language such as “linked schema”, “qualified attribution”, “spatial resolution”, “identifier”, or “conforms to” were reported among the entries for this category. Some of these terms were unclear to half of the participants. This will also need to be taken into account accordingly when developing an intuitive user interface via which metadata is input or retrieved.

Language must be comprehensible not only in external relations with citizens, but also in internal relations with the public administration’s own employees. This also applies to the digitalization labs. Digitalization labs are a method by which user-friendly digital solutions are developed jointly in experimental formats and within a limited timeframe by responsible specialists and representative users, but also by designers and software developers. The problem: The terminology and methodological approach used in the digitalization labs is not equally accessible to all employees.

In a collaborative project with the University of Konstanz, Prof. Dr. Ines Mergel, Almire Brahimi and the author of this report interviewed participants from the digitalization labs. As it turned out, the first time the majority of interviewees were familiarized with the terminology, methods, and workflows used was in the digitalization lab. The language used in this context is sometimes new, unfamiliar and consists primarily of English technical terms. Some groups isolated themselves when the comparatively experimental work environment did not correspond to their day-to-day professional lives. In addition to the language used, one other finding from the interviews is the lack of general digitalization competencies. Being trained for and willing to help shape innovative solutions, an interdisciplinary understanding of workflows and processes, and the right level of empathy to be able to incorporate user needs into the design of products and services are becoming increasingly important. It is important to strengthen these varied competencies among employees so that all participants in a digitalization lab can contribute equally, and the results of their work also reflect the diversity they bring to the table. The balancing act between working and learning at the same time needs to be revisited on a regular basis. A transparent, empathetic approach to language in different work contexts is essential here in order to interact on an equal footing.



3.7 Disinformation as an interdisciplinary research task of growing social significance

The increasing dissemination of political content on the internet has taken on a new dimension in times of the pandemic. More than ever before, it has made us aware of one thing: Disinformation works, and poses a challenge for society. Non-transparent campaigns fuel social tensions and attempt to sway elections and political processes. This can evolve into a threat to our liberal democracies. Companies are also increasingly in danger of suffering losses as a result of targeted disinformation campaigns. Over the following pages, our authors examine a central challenge society faces as a whole from three different perspectives – security, communications, and legal: Recognizing, evaluating, and banishing the threat of disinformation.⁴

⁴ The contributions are abridged versions of publications that appeared in the professional journal comply (issue 04/2020) with the thematic focus “Disinformation” (ISSN 2364-7604).

The security perspective

DISINFORMATION AS AN EXTORTION TOOL? HOW COMPANIES CAN PROTECT THEMSELVES AGAINST THIS NEW THREAT

Richard Huber

Could disinformation campaigns pose as high a risk to companies in the future as computer worms or encryption trojans? Author Richard Huber, security researcher at Fraunhofer FOKUS and member of the research group "Digitalisation and Networked Security" warns that this danger should not be underestimated, because the necessary technologies and communication channels have long been available.

Disinformation campaigns harbor major entrepreneurial risks, such as damage to a reputation established over the years with customers and suppliers, discrediting the quality of a company as an employer, or a negative portrayal of product and service quality. Among those responsible for information security in companies, fake information is currently a topic that receives little attention. Surveys of companies in October/November 2020 show that, although they do in principle recognize the threat that disinformation poses for their company, they do not yet pay explicit attention to this field in light of the many challenges with regard to the security of information and communications technology (ICT). This could have far-reaching consequences in the years to come.

In this regard, it is worth performing a comparison with the development of ransomware. Malware of this nature encrypts all the data it can get a hold of on affected computers and mobile devices. A ransom demand is then sent to affected companies and individuals, often via hard-to-trace Bitcoin transfers. If the affected party pays, they will ideally receive an electronic key from the attacker, which they can subsequently use to decrypt the data on their computer. If they refuse to pay, the data is often lost forever. Although the first malware of this type surfaced as early as the late 1990s, risk assessment and knowledge concerning this type of threat remained at a rudimentary level for decades.

Richard Huber is a security researcher and works in the research group "Digitalisation and Networked Security".



The situation changed abruptly with the emergence of sophisticated malicious ransomware such as the “Locky” crypto Trojan and the “WannaCry” computer worm starting in 2016/2017. Companies, prominent individuals, and institutional entities were affected by the ransomware outbreaks. Corporations, hospitals, universities, courts, research institutions, and even the German Bundestag had to go offline for days or paid ransom demands. Although this type of threat had been known for a long time, numerous companies and organizations fell victim to the attacks.

By analyzing why the threat of ransomware has taken around 27 years to mutate abruptly from a low-priority peripheral problem to a globally rampant “super threat” between the time it first became known (1989) and the massive outbreaks starting in 2016, we may be able to draw conclusions regarding the development of damage scenarios resulting from disinformation in the coming years.

First of all, these attack tools exploit the interconnectedness of almost all subsections of organizations via ICT networks. The second circumstance facilitating the spread of ransomware was the availability of malware construction kits on the darknet, in which users can constantly create new malware programs possessing different malicious functions and spreading characteristics with just a few clicks and virtually no specialist knowledge. This means that attackers without any programming knowledge whatsoever can repeatedly experiment with variations of different malware subroutines until they have overcome the protective mechanisms in the organizations under attack. Furthermore, the first malware programs optimized in this fashion took advantage of the lack of awareness of the principle of “encryption of sensitive information for the purpose of extortion”, thereby resulting in losses.

Individual targeted disinformation campaigns against companies have already been carried out successfully. In 2017, for example, the company Starbucks in the USA had to contend with a disinformation campaign, the core message of which was that illegal immigrants would receive a 40 percent discount on all items on the Starbucks menu. This campaign was noticed and spread by users worldwide. It was only after two days that the company reacted and clarified that this was a disinformation campaign. Disinformation campaigns as a method for extorting ransoms are not yet known. However, the tools and communication channels for doing so already exist. Analogous to malware construction kits, disinformation campaigns also make use of highly advanced technologies for the automated creation and operation of social bots. There exist highly automated bot accounts on social networks, supported by machine learning methods, which pretend to be real users and simulate typical human user behavior. Via hacked or stolen user accounts, false reports reach broad groups of addressees. In addition, there are cyborg accounts in which messages from real users are automatically enriched with misinformation – resulting in fake information that appears even more authentic.

The mass operation of these technologies incurs only low costs. Hence, in the near future, bot networks and disinformation construction kits may be found on the darknet as a service (botnet as a service). When this happens, the use of distorted or false information that spreads explosively in social networks as an attack and extortion tool will not be far off.

How can organizations prepare for such scenarios? First of all, an individual risk assessment of the threat vector “disinformation campaigns” should be conducted in a strategy and action plan via asset and risk analyses. The primary focus should be on reputation assets, such as a reputation built up over many years with regard to services with positive connotations, as an “outstanding employer”, or as a “particularly reliable project partner”. In the second step, the probability of occurrence and the potential severity of damage from a loss of reputation are then assessed.

Relevant key terms and misinformation indicators should be compiled, for which searches can be executed preventively and situationally – where necessary supported by AI tools – in communication streams of social networks, on microblogging services, and on career platforms. There is already a name for this process, it is called “digital listening”, and there also exist commercial software tools. Early detection creates a lead time and allows management and intervention teams to quickly initiate response measures and counter the fake information in a proactive role.

The communications perspective

THE MANY FACES OF DISINFORMATION AND HOW TO RECOGNIZE THEM

Annett Heft

Different strategies exist for leveraging untrue claims or targeted, inappropriate contextualization. In this article, communication scientist Annett Heft, head of the research group “Digitalisation and the Transnational Public Sphere”, explains how different forms of disinformation can be distinguished and recognized.

“Fake news” is what Donald Trump disparagingly called reports from mainstream media, giving the term international popularity. In Germany, the historically charged term “lying press” (Lügenpresse) is once again in use since 2014, and is employed by critics to attack the media. The most recent example of this are events, demonstrations and social media posts by opponents of the measures implemented by politicians for containing the COVID-19 pandemic.

From a communication studies perspective, the term “fake news” is problematic in several respects. This is due first of all to a lack of theoretical conceptualization, but also to its imprecise usage both within and outside academia, and finally to the inherent contrast between the meaning of “fake” and the concept of “news” in journalism. In the journalistic context, news is defined by rigor and striving to be truthful, factual, and relevant. False or misleading information is therefore better described by the concepts of “disinformation” or “misinformation”.

A more nuanced conceptualization of different forms of false information makes it possible to objectify the debate and, at the same time, to take into account the various causes and strategic goals of disinformation and those spreading it.

Misinformation usually refers to situations where content that contains flaws which the creators and disseminators of the content were not aware of is created and disseminated, or shared and forwarded in digital channels. Such errors can creep in unintentionally in the day-to-day stress of compiling journalistic news and in light of the complexity of many current topics, despite the greatest efforts at due diligence, and even users will not always be able to thoroughly verify the content they share via their digital networks. In a journalistic context, such errors are usually noticed quickly, thereby allowing them to promptly be rectified by means of corrections.

The concept of “disinformation” or “fake information”, on the other hand, is used in scientific observations when the act of spreading this incorrect information is a deliberate, intentional, and disingenuous one. Disinformation is empirically false; it is spread knowingly and for strategic reasons. One other type is “malinformation”. Malinformation is the strategic dissemination of true information, but in a manner such that it harms individuals or organizations.

Hence, while disinformation intentionally spreads false information that can be compared against confirmed facts, malinformation embeds what are per se correct facts into a context in such a manner that harmful conclusions are to be expected for the parties affected. For example, misconceptions about a particular matter may be evoked among the recipients of the information, thereby motivating them to take unfavorable action.

In dramatic cases such as the COVID-19 pandemic, this may impact the integrity of the health of individuals. In principle, organizations and companies of all backgrounds can have their reputations and economic foundations damaged in this way.

Annett Heft leads the research group “Digitalisation and the Transnational Public Sphere” at the Weizenbaum Institute.



In journalistic practice and academic research, we can distinguish between different approaches as to how disinformation can be identified. On the one hand, characteristics and distinctive features that individual actors or digital accounts exhibit or have exhibited in past cases of disinformation are used as starting points for empirical analysis in order to be able to quickly identify and react to new disinformation through the targeted monitoring of precisely these actors. Relevant indicators for this include trustworthiness and reputability. These approaches also take into account whether actors and their accounts or websites have already attracted attention as a point of origin for disinformation or whether the characteristics of the accounts exhibit similarities to those of known spreaders of disinformation.

Other approaches utilize content-related characteristics and anomalies as central starting points for the detection of disinformation. A distinction can be drawn here between static and dynamic features. For example, linguistic, syntactic and stylistic features in texts are used to draw conclusions regarding the probability of disinformation. Dynamic indicators attempt to use temporal patterns and the size and composition of user accounts and their actions to make predictions about the existence of synchronized activities and behavioral anomalies that may indicate disinformation campaigns.

The processes of detecting, monitoring, and verifying (potential) disinformation are labor-intensive and complex. It is therefore not surprising that interdisciplinary initiatives and collaborations are increasingly being established in academia and across industries to effectively counter disinformation. For example, media outlets such as the German Press Agency are working with specialized tech vendors to further develop automated processes and implement them in the form of convenient digital tools so that they

can be used by a broader user base for monitoring and responding to disinformation. Companies, too, can no longer rely on traditional media monitoring services to track public communication related to them and their industry, as a large percentage of disinformation currently circulates via digital communication channels. To analyze them, automated processes and digital applications are becoming increasingly relevant.

The legal perspective

FREEDOM OF EXPRESSION HAS ITS LIMITS

Hans-Christian Gräfe

How disinformation is to be evaluated constitutionally in the societal and corporate contexts and how legal action can be taken against its various manifestations is explained by the legal expert Hans-Christian Gräfe, member of the research group “Responsibility and the Internet of Things”.

“Disinformation” is not a legally defined term. However, this by no means suggests that the legal system is unable to grasp the phenomena subsumed under it. On the contrary, case law relating to the right of expression is highly nuanced and comprehensive. It is based on the freedom of expression granted by Article 5 (1) sentence 1 of the Basic Law (GG), which protects free expression and the dissemination of opinions.

In conjunction with the freedom of information, also from Article 5 (1) sentence 1 GG, which protects the unhindered flow of information from generally accessible sources, it aims to guarantee the process of the free formation of opinions. Any opinion characterized by elements of taking a stance and assuming a point of view within the framework of an intellectual debate may be protected.

Value judgments are covered by this, i.e. expressions of opinion that cannot be proven because they are characterized by the subjective relationship of the party expressing the opinion to the content of their statement. The content or meaningfulness of the value judgment in question is irrelevant. According to the Federal Constitutional Court, the protection of fundamental rights exists “irrespective of whether the statement is rational or emotional, justified or groundless, and whether it is considered by others to be useful or harmful, valuable or worthless”. Also covered are assertions of fact, i.e., assertions whose content can be proven. Assertions of fact and value judgments are often interrelated. In some cases, they are even mutually dependent and often cannot easily be separated from each other, since facts are a necessary prerequisite for forming opinions.

However, proven or deliberately untrue factual assertions are not covered under the protection of freedom of expression. This is because they are unable to contribute anything to the constitutionally desired formation of opinion. In light of this, the Federal Constitutional Court does not regard incorrect information as being worthy of protection. It could be argued that the text of the Basic Law does not contain any requirement of truth. In that case, however, abuses of the freedom of expression would still be taken into account.

This is because a wider scope of protection does not mean that freedom of expression is without its limits. The decisive factor for its practical scope is weighing it against other conflicting positions on fundamental rights. This means that a statement, considered on its own, could well still fall within the scope of protection of freedom of expression, but have such a serious impact on e.g. a person’s personal rights that it is deemed unacceptable at the end of the weighing process. For this reason, the phenomena of misinformation, disinformation and malinformation, which can be distinguished from the point of view of communication science, can readily be integrated into the construct of laws governing right of expression.

For example, unintentional misinformation can hardly be reinterpreted as a deliberately untrue assertion of fact. On the contrary, the correction of a piece of news that was initially spread incorrectly and its reception can certainly contribute to the formation of public opinion. The situation is different, however, when fake information is backed by campaigns to spread it that are deliberately and disingenuously motivated. Essentially, these are then veritably untrue statements of fact.

A problem arises, however, if disinformation is declared as a personal opinion while denying the facts. Provided the disinformation itself is based on a value judgment and the facts and value judgment are thus inseparably linked, there are initially some arguments in favor of not excluding the statement from the outset from the scope of protection of freedom of expression. On the other hand, the overall effect of Article 5 (1) of the Basic Law is directed specifically at the process of free formation of opinion, which must therefore also be protected against manipulation, distortion, and subversion. This conflict can be resolved in court in each specific case. In terms of constitutional law, malinformation is the largest gray area.

It should be noted that it does not apply to state institutions. Where the state has a duty to inform, it must do so precisely and as comprehensively as necessary.

Disinformation and malinformation may well cross the line into criminal liability due to the intention behind it. Although there is no general prohibition on lying, and rightly so, targeted discrediting can easily constitute a criminal offense for libel, slander, or defamation. Furthermore, according to the State Media Treaty (MStV), certain duties of care in the dissemination of content no longer apply only to the media, but also to website providers. The law speaks here of “telemedia”. When used for commercial purposes, they must also provide information on who is behind them, in a mandatory legal notice (Impressum).

When disseminating content, information intermediaries must fulfill transparency obligations. This applies to media intermediaries, i.e., social networks, search engines, etc. In addition, the European Union has so far relied on self-regulation by tech companies based on a code of conduct to combat disinformation, which many media intermediaries have signed. The German Network Enforcement Act (NetzDG) also concerns social networks, but has a slightly different focus than the combating of disinformation. It argues for the private enforcement of existing laws, for example criminal laws relevant to the act of expression (see above) by private providers.

In particular, provisions from labor law and the law against unfair competition can be applied to disinformation in the corporate context. For one, companies have a right to issue instructions to their employees regarding their job activities and an obligation to define and organize work processes. This includes compliance rules regarding how the company is represented towards the outside and the handling of internal information. Particularly in the relationship with consumers and competitors, outgoing information is subject to stringent regulations under competition law.

In conclusion, it can be said that freedom of expression and information are based on the ideal of free information and diverse opinions for the democratic formation of opinion. Disinformation and malinformation find their limits in the weighing of their effects on other conflicting positions on fundamental rights and in criminal law. Neither individuals nor companies have to accept disinformation, misinformation, or malinformation about themselves. They can take legal action against it.

Hans-Christian Gräfe is a lawyer (Volljurist) and research associate in the research group “Responsibility and the Internet of Things”.



IV. Research

Digitalization permeates all areas of societal life and creates an increasingly complex world, which can have unforeseeable and far-reaching consequences. In order to adequately grasp the complexity of these processes, it is not sufficient to look at individual phenomena in isolation and solely from a disciplinary perspective. Rather, a comprehensive, long-term and interdisciplinary research program is needed that combines different theoretical approaches and methodological strategies. The total of 21 research groups at the Weizenbaum Institute conduct interdisciplinary and basic research on the transformation of society through digitalization. The goal is to better understand the phenomena, conditions and consequences of the digital transition and to formulate options for shaping it. The spectrum of subjects represented at the institute ranges from law to social science subjects such as sociology, political science and communication science, psychology, computer science in its various forms, and even design research. The research agenda of the Weizenbaum Institute encompasses phenomena that are highly relevant from a scientific and societal perspective. The four research areas combine the analysis of selected sectors of society with a normative perspective. In addition, three accompanying cross-sectional formats explore overarching issues of ethics and the political organization of the relationship between technology and civil society.

<div>I</div> <div>People – Work – Knowledge</div> <div>Working in Highly Automated Digital-Hybrid Processes</div> <div>Critical Maker Culture</div> <div>Education and Advanced Training in the Digital Society</div> <div>Digital Technologies and Well-being</div> <div>Digitalisation and Science</div> <div>Reorganizing Knowledge Practices</div>	<div>II</div> <div>Markets – Competition – Inequality</div> <div>Work and Cooperation in the “Sharing Economy”</div> <div>Frameworks for Data Markets</div> <div>Data-driven Business Model Innovations</div> <div>Inequality and Digital Sovereignty</div> <div>Digital Integration</div> <div></div>	
<div>III</div> <div>Democracy – Participation – Public Sphere</div> <div>Democracy and Digitalisation</div> <div>Digital Citizenship</div> <div>News, Campaigns and the Rationality of Public Discourse</div> <div>Digitalisation and the Transnational Public Sphere</div> <div></div> <div></div>	<div>IV</div> <div>Responsibility – Trust – Governance</div> <div>Responsibility and the Internet of Things</div> <div>Shifts in Norm Setting</div> <div>Trust in Distributed Environments</div> <div>Quantification and Social Regulation</div> <div>Digitalisation and Networked Security</div> <div>Criticality of AI-based Systems</div>	<div>V</div> <div>Cross-sectional formats</div> <div>Autonomous Systems & Self-Determination</div> <div>Security & Transparency</div> <div>Digitalization & Sustainability</div> <div></div> <div></div>

4.1 Research area I

People – Work – Knowledge

The digitalization of society is changing the world of work, the production of knowledge, and knowledge systems, but also individual well-being. In the research area People - Work - Knowledge, six research groups examine these effects digitalization has on individuals and organizations.

In the world of work, the new digital approaches to automation and networking as well as the use of AI technologies can be used on the one hand to eliminate stressful work activities and empower employees, but on the other hand also for increased standardization and control over employees. At the same time, the new technologies also offer opportunities to strengthen self-determination in the digital economy, for example in the form of maker communities and labs, in which users are involved in the development and manufacture of products. It must be investigated what knowledge and which competencies will be necessary for people in a digital world in the future. The reorganization of knowledge practices in general and the role of scientific value creation in these processes also need to be rethought.

RESEARCH GROUP

“WORKING IN HIGHLY AUTOMATED DIGITAL-HYBRID PROCESSES”

MEMBERS OF THE
RESEARCH GROUP

Sana Ahmad

Dr. Florian Butollo
(Research Group Lead)

Sonata Cepik

Lotte Franziska Cooiman

Dr. Jana Flemming

Greta Franke

Jobst Gaus

Christine Gerber

Ann-Kathrin Katzinski

Robert Koepp

Oliver Kossowski

Prof. Dr. Martin Krzywdzinski
(PI)

Patricia de Paiva Lareiro

Jakob Simon Scheffler

Lea Schneidemesser

David Wandjo

Dr. Philip Wotschack

The research group investigates automation processes and their impact on employees in industry, logistics, and the service sector. The research focuses on the question of how job profiles, qualification requirements, and work organization change. Automation here refers not only to the use of mechanical robotics, but also the application of AI and the Internet of Things. A central goal of the research is the identification of potential for shaping change for company and political actors.

The group's research activities are divided into several projects:

Martin Krzywdzinski focuses on the historical reconstruction and analysis of automation dynamics in the automotive industry. The research is a counterpoint to current theses of the destruction of employment through automation. It shows that automation is gradual and that, despite the high levels of automation which have been achieved, manual labor is still required in production.

Florian Butollo examines how automation affects the structure and geography of global value chains. Contrary to the assumption that the use of technology would result in a trend toward relocating production back to high-wage countries, it was demonstrated that digital technologies are more likely to be drivers of further offshoring.

Philip Wotschack and Patricia Paiva de Lareiro also address the relationship between automation and qualification requirements, but employ a different methodological approach. As part of an interdisciplinary project with the research group "Education and Advanced Training in the Digital Society", they conducted an experiment on the use of digital assistance systems in production. The findings indicate that conveying holistic production know-how increases the quality of the production process in the long term and is not rendered superfluous by assistance systems.

Robert Koepp looks at the role of digital control systems in the work models of the logistics industry and examines their impact on employment, the specific job itself, and job quality. His research shows that companies have to deal with high employee turnover and low qualification levels. To do so, they rely on low-cost models that use technology for oversight and minimize the need for employee involvement.

Sana Ahmad examines the work of content moderators in India who work for national and global social media platforms. The work process of content moderators is highly standardized and monitored through the use of digital technologies.

In addition, the research group has continued with projects funded by third parties and started new ones. Co-funded by Roskilde University (Denmark), Lotte Franziska Cooiman is working on a dissertation on the political economy of venture capital in Europe and the working environments in start-ups. As part of a project funded by the Hans Böckler Foundation, Florian Butollo and Lea Schneidemesser are investigating the role of industrial internet platforms in the transformation of traditional industrial sectors. Since January 2021, Florian Butollo and Martin Krzywdzinski have headed a project on the consequences of the COVID-19 pandemic for the digitalization of the world of work, which is funded by the German Federal Ministry of Labour and Social Affairs (BMAS).

International collaborations focused on (in addition to Roskilde University) the collaboration with John Zysman (University of California, USA) in the aforementioned BMAS project and the collaboration with Mark Graham (Oxford Internet Institute, United Kingdom) on the platform economy. The fellows of the research group were: Robert Dorschel (University of Cambridge, United Kingdom), who is working on the identity and unionization of tech workers, and Caroline Sindere (freelance design researcher), who conducted a workshop with Sana Ahmad with content moderators for social media which utilized methods of design thinking.

RESEARCH GROUP

“CRITICAL MAKER CULTURE”

MEMBERS OF THE
RESEARCH GROUP

Katharina Bellinger

Prof. Dr. Michelle Christensen
(Research Group Lead)Prof. Dr. Florian Conradi
(Research Group Lead)

Marie Dietze

Lisa Hofmann

Prof. Dr. Gesche Joost (PI)

Marie Munz

Rashid Owoyele

Berkay Soykan

Pablo Torres

Lukas Wirsching

The research group concerns itself with makerspaces and open labs, which potentially open up new ways to strengthen social self-determination. The term “maker culture” is used to describe networks of makers who develop new artifacts in a decentralized manner utilizing digital production possibilities, such as open source code and rapid prototyping. This decentralization holds potential for new forms of collaboration and access to technologies. With an eye on the digital divide, the research group investigates how bottom-up initiatives contribute to overcoming inequality and open up opportunities for participation. The research group focuses in particular on gender and diversity, post-colonial and post-Western perspectives, and approaches to environmental and economic sustainability. For this purpose, the explorative methods of design research and critical making are used to formulate a contribution to the discourse with interventions and concepts, for example in the form of prototypes, as well as participatory workshops and exhibitions.

In the thematic focus of gender, special focus was placed on networking and collaboration with stakeholders from academia and civil society. In collaboration with the Women* in STEAM network and the DiGiTal Graduate Program of the Einstein Center Digital Future (ECDF), a workshop and a panel discussion on interdisciplinary research was held in March 2021. The research group also organized a workshop series in 2021 with tech activists and artists together with Futurium in Berlin. Feminist perspectives in technology development were presented here to discuss new topics, experimental approaches and frameworks for production and application with an invited public.

The research group also contributed to various transfer events, including the DAAD conference “Moving Target Digitalisation”, initiated by the Berlin Center for Global Engagement in the framework of the Berlin University Alliance, the People to People Playground Festival 2021, the foundation German-Israeli Future Forum, and the Berlin / Oxford Summer School for Open Research.

The current state of the group’s research was presented in the form of lectures at various universities, including HTW Berlin, Bern University of Applied Sciences, Weißensee Academy of Art Berlin, and the Berlin Institute of Health. In addition, the research topics were linked to various design research courses and compact seminars were held at the Berlin University of the Arts (UdK).

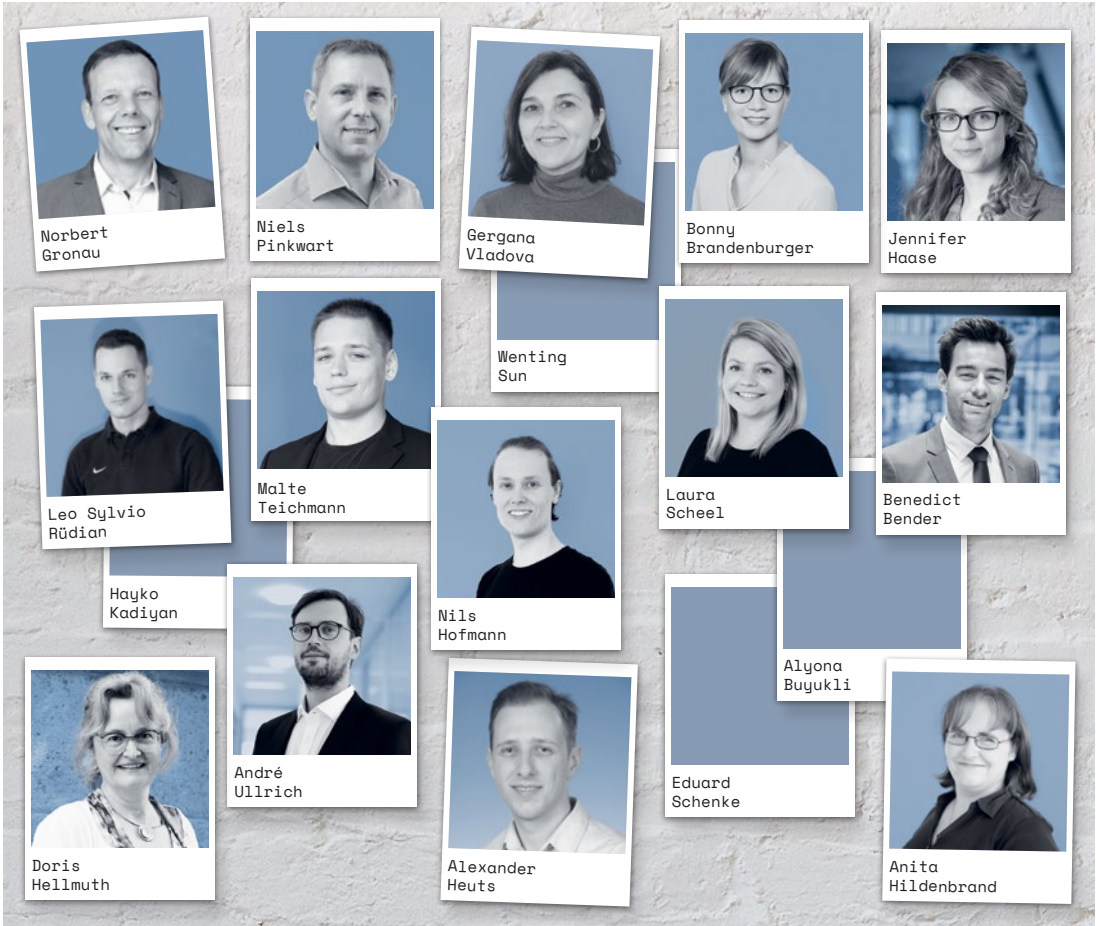
In Marie Dietze’s PhD project, further interviews were conducted with initiators of feminist hacking and ICT initiatives on issues of social justice, accessibility, and diversity in the discourse on technology. In collaboration with technology activist and freelance artist Alice Stewart (Touchy Feely Tech) as well as in collaboration with former research fellow Marie Kochsiek, a laterally acting community for artistic researchers was launched that deals explicitly with the discourse of design, sovereignty, and technological development in connection with intimacy. Within this framework, both workshops and a teaching event were held at UdK Berlin in spring 2021.

Within the thematic field of economic sustainability and the impact of collaborative principles in networked society, Rashid Owoyele explores how technological design and alternative ownership concepts could enable empowering economic systems and social sustainability. His research focuses on platform cooperativism, pursuing the question of which frameworks of shared ownership are conducive to ethical production processes.

In collaboration with the research group “Inequality and Digital Sovereignty”, the philosopher and designer Denisa Reshef Kera (University of Salamanca, Spain) was hosted as a collaborative research fellow. Her work focuses on issues of algorithmic governance and uses blockchain and IoT technologies to address ethical and critical issues related to technical infrastructures. Through participatory workshops and using prototyping methodology, she engages diverse interest groups in decision-making.

In the area of internationalization, the research group, in collaboration with ECDF in Berlin, Aalto University (Finland), Aalborg University (Denmark), and the International University of Beirut (Lebanon), planned and organized the interdisciplinary conference “Politics of the Machines – Rogue Research”, which was held in September 2021. At this conference, the themes of gender, postcolonialism, and environmental sustainability were presented and discussed in the context of digitalization. Academics, artists and activists from Europe, the USA, South America, the Middle East, Asia and Africa attended the conference. In addition to the research contributions, performances and exhibitions also contributed a hybrid framework to this conference.

RESEARCH GROUP
“EDUCATION AND ADVANCED TRAINING IN THE DIGITAL SOCIETY”



MEMBERS OF THE
RESEARCH GROUP

Bonny Brandenburger	Prof. Dr. Niels Pinkwart (PI)
Alyona Buyukli	Leo Sylvio Rüdian
Prof. Dr.-Ing. Norbert Gronau (PI)	Laura Scheel
Jennifer Haase	Eduard Schenke
Alexander Heuts	Wenting Sun
Anita Hildenbrandt	Malte Teichmann
Nils Hofmann	Dr. Gergana Vladova (Research Group Lead)
Hayko Kadiyan	

ASSOCIATE
RESEARCHERS

Benedict Bender	Dr. André Ullrich
Dr. Doris Hellmuth	

The research group investigates new ways and forms of knowledge development and transmission that are emerging in the wake of digitalization. Accompanying these developments is inequality in terms of access to and mastery of digital technologies. The group therefore also explores the question of which competencies at each stage of life can contribute to enabling participation in digital education and further training.

The research focuses on the formal and informal, intended and unintended imparting of competencies related to digitalization. The group examines them in the context of school and university education, as well as continuing education in companies. The group's work focuses on digital technologies, such as learning platforms and systems, as well as digital learning offerings, both with and without AI support. In particular, the researchers are investigating the personalization and individualization of educational offerings. Another goal is to identify inequality and the prerequisites for upgrading qualifications for the long-term use of digital technologies.

The developments in the research projects during the reporting period are presented below:

In the area of school-based education, the focus in 2020 and 2021 was on the pandemic-driven processes of change that accompany the transition from a traditional in-classroom school to one operating in digital mode. The research group considers the transition to the digital mode as an innovation. As part of the project "Towards digital schools", the research group is working with the research group "Data-driven Business Model Innovations" and vice principal Doris Hellmuth of Käthe-Kollwitz-Gymnasium in Berlin to investigate the complex events related to digitalization at school, in a scientific and application-oriented manner. Among other things, methods and tools from process modeling are used to map and analyze the entire process. As a first step, the tool "Canvas Digitaler Unterricht" (lit. Digital Teaching Canvas) was designed.

In the area of university education, PhD student Bonny Brandenburger used learning diaries to investigate in an extensive study how students develop digital competencies in fab labs. Research group leader Gergana Vladova and doctoral student Leo Rüdian also promoted the development of digital competencies in university studies in the seminar "AI in Education". The final exam involved the creation of an online course. An assessment procedure for peer reviewing the courses was also developed. Two business models were developed to ensure that the courses would continue to be available in the long term. Another comprehensive study on the acceptance of digital teaching at universities was conducted by research group leader Gergana Vladova together with associate researchers André Ullrich and Benedict Bender, and PI Norbert Gronau with approx. 900 students in the digital

semester during the COVID-19 pandemic. The results of this study were presented in several publications, including *Frontiers in Psychology*.

Together with the Goethe-Institut, PI Niels Pinkwart and PhD student Leo Rüdian worked on two projects focusing on online courses: The first was devoted to open-ended texts written by language learners. These need to be evaluated manually in a time-consuming process at the Goethe-Institut. In the context of a research collaboration, a prototype was developed that can evaluate texts written by learners based on previously learned content. It assists tutors and provides them with support for standardizing assessments. In the second project, dashboards that help learners to obtain an overview of their learning progress were investigated as part of a study commissioned by the Goethe-Institut. The needs of learners and teachers were identified to derive new recommendations within learner dashboards. Technical limitations were also considered for specific recommendations on how to implement dashboards.

The project "EdTech in Transition" is another collaboration with the research group "Data-driven Business Model Innovations" in the field of online teaching. The goal is to develop a classification for educational technology (EdTech) applications, from which a nuanced definition of EdTech can be derived in a further step.

In the area of in-company training, the cooperation with the research group "Working in Highly Automated Digital-Hybrid Processes" was continued, intensive research was conducted on the use of assistance systems in workplace-based further training, and the results obtained to date were published. In addition to the findings already obtained, the groundwork was laid for new experiments in the Industry 4.0 lab in Potsdam, which are scheduled to commence next year.

Creativity as a key competence of the future is another core topic of the group, which doctoral students Jennifer Haase and Leo Rüdian approached in an interdisciplinary fashion at the interface between computer science and psychology in 2021. In a study, they investigated whether metrics from which convergent and divergent thinking can be inferred can be predicted from behavioral data in an online course. Results showed that the metrics used to quantitatively assess divergent thinking could be predicted with 70 percent accuracy. Furthermore, the topic of creativity in the context of digital education was investigated empirically in a joint project prior to and during the visit by research fellow Johnathan Cromwell (University of San Francisco, USA) in the summer of 2021.

RESEARCH GROUP
“DIGITAL TECHNOLOGIES AND WELL-BEING”



MEMBERS OF THE
RESEARCH GROUP

- Katharina Baum
- Dr. Annika Baumann
(Research Group Lead)
- Margarita Gladkaya
- Dr. Fenne große Deters
- Jahid Hasan
- Anita Hildenbrandt

- Prof. Dr. Hanna Krasnova (PI)
- Hannes-Vincent Krause
- Faysal Mizan
- Maximilian Paul
- Marlon Skutnik
- Max Töpfer

ASSOCIATE
RESEARCHER

- Olga Abramova

The research group is concerned with the study of long-term individual and societal consequences of the use of digital technologies. From smartphones to social media, digital technologies are ubiquitous in our everyday lives. They are changing how we work and spend our leisure time, what information we are exposed to, and how we interact with each other.

The goal of the research group is to develop a better understanding of how the use of digital technologies affects the well-being, behavior, perception, and decision-making processes of users. Based on the findings obtained, society is to be informed of the possible negative consequences of digitalization. At the same time, it should be better empowered to reinforce the positive consequences. To answer the overarching research questions, the research group employs a variety of empirical methods such as surveys, interviews, experiments, and machine learning methods.

The current reporting period, like the previous one, was characterized by the COVID-19 pandemic. Because the use of digital technologies has gained greater significance over the course of the pandemic for social interaction, in both private settings as well as in the context of collaboration in professional settings, the topics of the research group bear great relevance. During the reporting period, new research projects which arose in the course of the global health crisis were carried out. At the same time, work on existing projects continued, in part adapted to the circumstances.

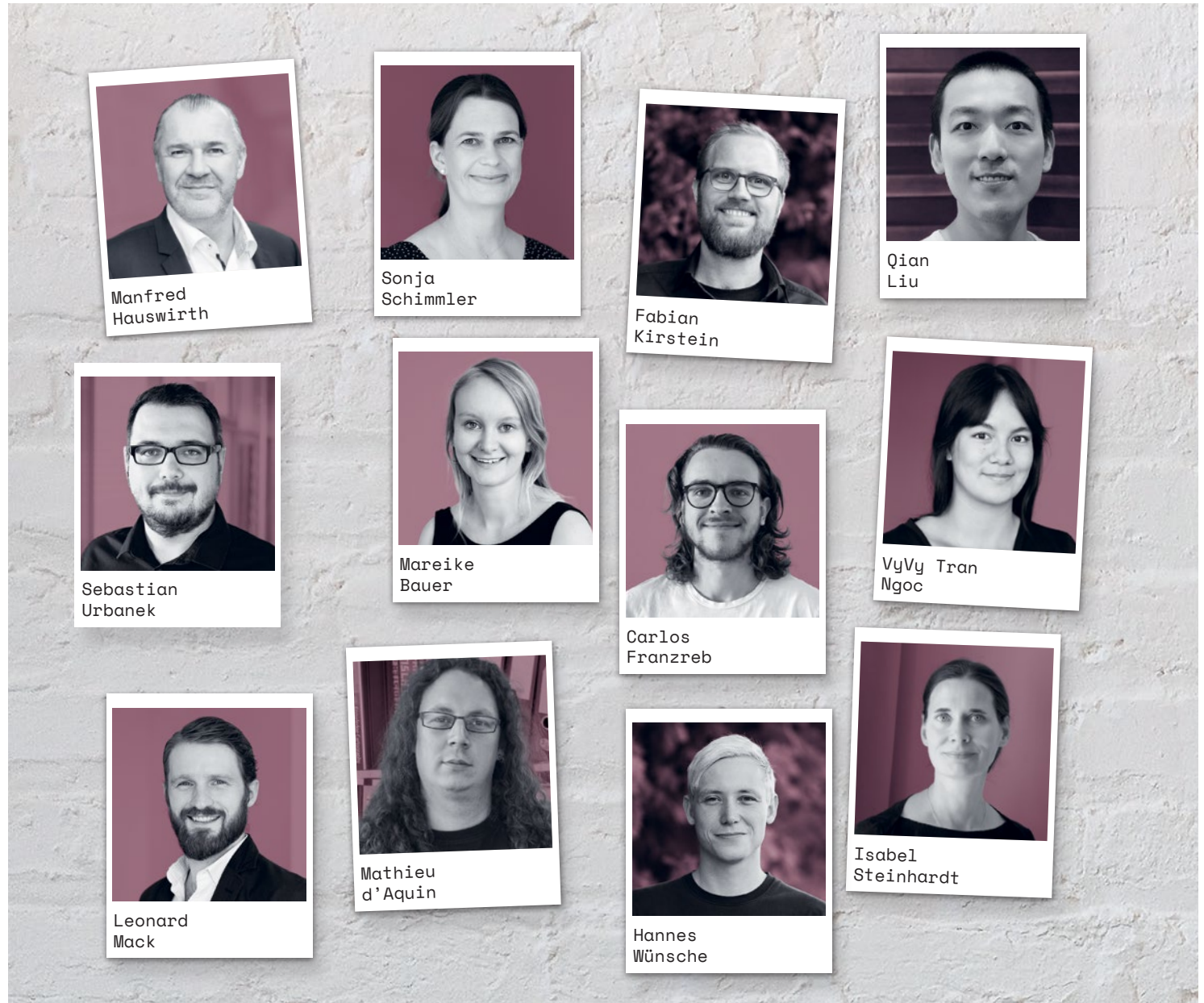
The pandemic project “Exploring the Social Dynamics of COVID-19” in collaboration with Fenne große Deters, for example, investigates the connection between the use of a Corona tracking app and the concern of infecting oneself with Corona or infecting others. Furthermore, the group also continued working on previously initiated research collaborations with research fellows Monideepa Tarafdafar on “Digital Inequality”, Marten Risius on “A Motivational Perspective on the Privacy Paradox” and Michael Wessel on “First Review Bias in Healthcare”. Further networking activities in the national and international research community are being planned and will be realized as soon as the situation permits once again.

Members of the research group were involved in various conference formats that were moved to the digital space in light of the pandemic situation. For example, research group leader Annika Baumann served as session chair at the European Conference on Information Systems (ECIS2021) and, together with the co-authors of a joint submission, presented the topic “First Review Bias in Healthcare” at the Symposium on Statistical Challenges in Electronic Commerce (SCECR2021).

Furthermore, the research group was involved in transfer activities, particularly in the new formats that have emerged at the Weizenbaum Institute as a result of the pandemic. For example, Katharina Baum presented the findings of her research at a Weizenbaum Forum entitled “Gleich und Ungleich im Netz: Perspektiven auf den Digital Divide” (Equal and Unequal on the Net: Perspectives on the Digital Divide). Hannes-Vincent Krause gave a talk at TINCON, a conference for digital youth culture, in which he addressed the positive effects of social media platforms such as Instagram. Fenne große Deters, with her expertise in the field of psychology, advises the start-up “Not less but better” on the further development of research- and app-based interventions that enable people to make their interaction with digital technologies healthier.

RESEARCH GROUP

“DIGITALISATION AND SCIENCE”

MEMBERS OF THE
RESEARCH GROUP

Mareike Bauer

Carlos Franzreb

Prof. Dr. Manfred Hauswirth (PI)

Fabian Kirstein

Qian Liu

Dr. Sonja Schimmler
(Research Group Lead)

VyVy Tran Ngoc

Sebastian Urbanek

Hannes Wünsche

ASSOCIATE
RESEARCHERS

Prof. Mathieu d'Aquin

Leonard Mack

Prof. Dr. Isabel Steinhardt

The research group researches and actively shapes the digitalization and liberalization of science. Its current focus is on data infrastructures and data tools. The research group itself strives to be as open as possible and among other things, to make publications available as open access, data as open data, and software as open source.

The work of the research group is influenced by current scientific and technical developments in the Semantic Web and Linked Data, but also data science and AI. It draws on the extensive experience of Fraunhofer FOKUS in the areas of open data management and open data platforms. Among others, the data management platform piveau and the EU project data.europa.eu (formerly European Open Data Portal) serve as the technical basis for the work.

The work focuses on the conception, implementation and testing of user-oriented research data infrastructures. All systems developed are to serve as the basis for further research activities in the medium term. The research group is expanding these systems step by step, introducing in particular innovative (partially) automated methods and experimenting with new forms of scientific communication and collaboration.

The research group is also responsible for the development of a research data infrastructure of the Weizenbaum Institute. As the initial building block, the group developed a repository for publications and research data together with an external service provider: the Weizenbaum Library. The aim is to compile all publications and research data and make them available to the public for further use. The repository was implemented last year and can now be introduced at the Weizenbaum Institute and tested with the involvement of all research groups. Building on the previous activities of the research group (workshops, interviews with scientists), the Head Office conducted a survey together with the research group on the topics of research data management and research data infrastructures in order to further identify the needs of scientists.

Accompanying the conception, implementation and testing of research data infrastructures, three research projects on the topic of data infrastructures were continued: “A Decentralized Provenance Network for Linked Open Data” (Fabian Kirstein), “IoT Provenance Management over Incomplete Provenance Graphs” (Qian Liu), and “Assessment and Improvement of Meta Data Quality in Linked Open Data” (Sebastian Urbanek).

Further results were published last year and presented at conferences and workshops: These included the International Conference on Electronic Government (EGOV 2021), the International Conference on New Technologies, Mobility and Security (NTMS 2021), the IEEE Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON 2020) and the IEEE

International Conference on Data Engineering (ICDE 2021). Furthermore, a tutorial on the “Semantic Web in the Context of eGovernment” was also presented at the International Semantic Web Conference (ISWC 2021).

Within the Weizenbaum Institute, Sonja Schimmler served as editor of the “Weizenbaum Journal of the Digital Society” last year. She also became involved in the IT working group to support the development of an open IT infrastructure at the Weizenbaum Institute. The research group continued the interdisciplinary cooperation within the cross-sectional format “Security & Transparency”. It also participated in the podcast series of the research group “Data-driven Business Model Innovations”, specifically in episode 9, which covered “Open Government Data Portals”.

The research group worked closely with its associate researchers Isabel Steinhardt (Paderborn University), Mathieu d’Aquin (Université de Lorraine, France) and Leonard Mack (Fraunhofer FOKUS). In addition, Mischa Grabsch (University of Applied Sciences Potsdam) assisted the research group as an intern.

The research group networked actively, both nationally and internationally. Existing collaborations were expanded and new collaborations were established. For example, in collaboration with the Fraunhofer Institute for Applied Information Technology, the research group investigated the efficient and effective integration of research data according to the FAIR principles (Findable, Accessible, Interoperable, Reusable) into the cross-domain data space International Data Spaces (IDS).

The research group was active in the Berlin University Alliance thanks to the successful application from the last round of funding for the Excellence Strategy. It participated in the projects “Open Science by Design” together with the University of Oxford (United Kingdom) and “A Digital Research Space for the Berlin University Alliance” together with FU Berlin and TU Berlin.

The research group also participated in the National Research Data Infrastructure (NFDI) initiative. Sonja Schimmler acted as co-organizer of the Common Infrastructures section. The research group contributed to the consortia “NFDI for Catalysis-Related Sciences” and “NFDI for Data Science and Artificial Intelligence”. The research group also took an increasingly active role in the European Open Science Cloud (EOSC) initiative. One highlight was the participation in the EOSC task force “FAIR Metrics and Data Quality”.

RESEARCH GROUP

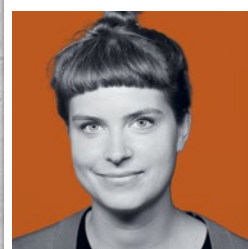
“REORGANIZING KNOWLEDGE PRACTICES”



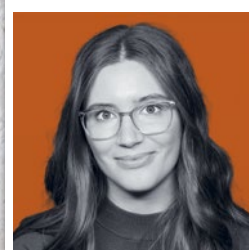
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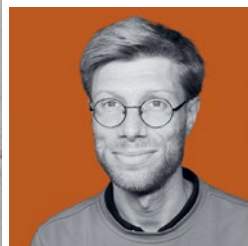
Maximilian
Heimstädt



Eva-Marie
Geier



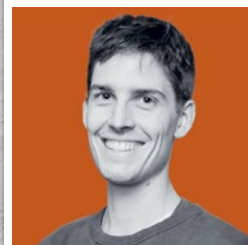
Katharina
Berr



Sebastian
Koth



Clarissa Elisa
Walter



Paul
Börsting

MEMBERS OF THE
RESEARCH GROUP

Katharina Berr

Paul Börsting

Prof. Dr. Sascha Friesike (PI)

Eva-Marie Geier

Dr. Maximilian Heimstädt
(Research Group Lead)

Sebastian Koth

Clarissa Elisa Walter

The research group is the youngest one in the research network. It started work in March 2020, with PhD students Katharina Berr and Sebastian Koth joining in August 2020.

The research group focuses on the production, application, and negotiation of knowledge in digitally networked societies. The changing knowledge practices are examined from an organizational science perspective and investigated in terms of their networkedness, heterogeneity, and dynamics. The starting point here is the institution of science, which is undergoing major changes over the course of digitalization, and its practical relationship to societal stakeholders. Because this relationship is no longer characterized by a clear separation between the production of knowledge on the one hand and its application on the other, but instead becoming increasingly interdependent, the research group assumes in its theoretical and practical research understanding that knowledge emerges in a complex co-production relationship, for example in cross-sectoral data infrastructures, in heterogeneous expert publics, or via participatory forms, such as currently in health research.

The combination of an organizational science perspective and a co-production paradigm which is highly accessible and unique in the German-speaking region makes it possible to investigate the current shifts in social knowledge production and the associated changes in the distribution of roles, to describe in detail critical phenomena such as the unequal distribution of information, communication deficits or anti-scientism, to develop corresponding proposed solutions, and to advise the respective societal stakeholders on practical implementation. In this regard, the research group concentrates on those processes in which the boundaries of scientificity are negotiated and become visible. With an eye on the cooperation between science and business and the interaction between science and civil society, current phenomena of the digital knowledge society can be characterized, such as the reconfiguration of the public sphere, the politicization of science, and the ethicization of technology. By investigating such phenomena, the research group provides a tailored contextualization of the activities of the research group “Digitalisation and Science”.

The dynamic production, evaluation, and application of scientific knowledge is performed by a variety of stakeholders and with practices that are rapidly evolving in the wake of digitalization, and often politically charged. In order to do justice to this particular research context, the research group relies on qualitative methods from organizational research and ethnography. The approaches of this family of methods specialize in the heterogeneity of knowledge practices and allow us to visualize the dynamic relationship between the knowledge of experts and laypersons as well as its technological embedding and political aspects. They thus provide the right tools for the practical exploration and theoretical description of the new ontology of the digital knowledge society. With this methodological understanding and the special focus on the interweavings between scientific and knowledge practices, the research group takes a reflective position in the Weizenbaum Institute and further develops its ability to transfer knowledge for decision-making and options for shaping politics, business and civil society.

Since the research group was established in March 2020, several articles have been published in international journals (for example in *Organization Theory and Innovation: Organization & Management*) and anthologies.

In the area of transfer, the research group is connected to Wikimedia Deutschland via Maximilian Heimstädt and to the working group “Scientific practice” of the Alliance of Science Organizations via Sascha Friesike, among others. Katharina Beer was a host for the Weizenbaum Forum during the reporting period, a series of transfer events. Sebastian Koth is active in the cross-institutional working group “EU Regulations” and is planning the 2022 annual conference of the Interdisciplinary Network for Studies Investigating Science and Technology in Berlin on the controversy of science and technology communication.

There are also multiple institutional and project-based collaborations. For example, Sascha Friesike is an associate researcher at the Humboldt Institute for Internet and Society and a member of the research group network Grand Challenges & New Forms of Organizing, funded by the German Research Foundation (DFG). Maximilian Heimstädt is a co-applicant and collaborator in the third-party funded project “Algorithmische Vorhersage & Mitbestimmung” (Algorithmic Prediction & Co-Determination) funded by the Hans Böckler Foundation, and cooperates with Malte Ziewitz, Cornell University (USA), on the topic of Algorithmic Governance.

4.2 Research area II

Markets – Competition – Inequality

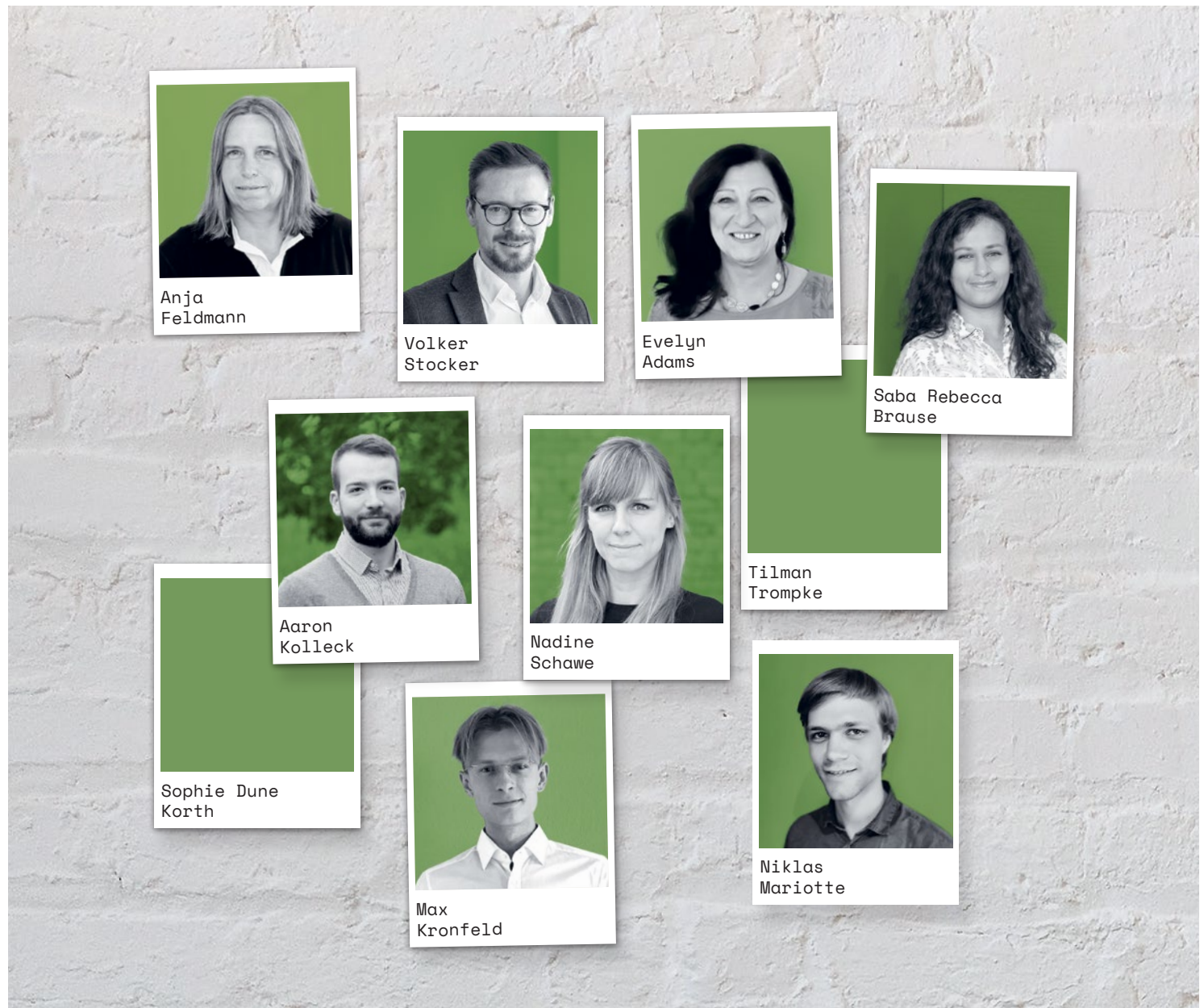
Digitalization is changing markets and forms of competition. In this research area, innovative companies are considered on the one hand, while new market dynamics as well as the effects on social and economic inequality are investigated on the other.

The rapid pace of development in the digital environment promotes diverse ambivalences that affect us in almost all areas of life and constantly challenge us anew. Digitalization offers us immense opportunities for personal participation and opens up new spaces for innovation, but at the same time demands the development of digital sovereignty and the definition of appropriate framework conditions. A characteristic feature of digitalization is that social reality is being transformed into objectifying data structures. Data use is thus becoming ubiquitous in more and more areas.

The debate surrounding digital participation and the design of data-structured reality spaces thus claims an increasingly important role, which this research area focuses on. The aim is to identify new dynamics as well as development potential and requirements for action for the trichotomy of Markets – Competition – Inequality. Key aspects of this investigation are data-based business model innovations, particularly in the field of education, as well as framework conditions of data markets which enable these innovations. Furthermore, the change processes of value creation chains and economic activity in the context of the sharing economy as well as upstream and complementary aspects of the platform economy and internet policy will be examined. In this context, the potential and impact of digitalization on social inclusion, digital participation, and digital sovereignty will also be considered and analyzed with regard to digitalization strategies oriented towards the public good and policy design.

RESEARCH GROUP

“WORK AND COOPERATION IN THE SHARING ECONOMY”

MEMBERS OF THE
RESEARCH GROUP

Evelyn Adams

Saba Rebecca Brause

Prof. Anja Feldmann, Ph.D. (PI)

Aaron Kolleck

Sophie Dune Korth

Max Kronfeld

Niklas Mariotte

Nadine Schawe

Dr. Volker Stocker
(Research Group Lead)

Tilman Trompke

The research group focuses primarily on the sharing economy. This phenomenon, whose socio-economic significance is growing rapidly, promises to fundamentally change consumption habits and revolutionize value creation chains and economic activities. Sharing concepts open up new ways of allocating otherwise idle capacities, thus creating new potential for efficiency and increasing economic and ecological sustainability as a result. However, the exploitation of such potential requires that associated challenges and risks be identified and adequately addressed. This gives rise to a wealth of research questions, and answering them meaningfully sometimes requires interdisciplinary approaches.

Thanks to its interdisciplinary configuration, the research group combines methods and perspectives from economics, law, sociology and computer science. This enables investigations that aim to contribute to a more nuanced understanding of various individual phenomena and to the identification and description of any interrelationships between them.

Within the scope of the research projects, the research group deals with the economic framework conditions, trust, barriers to change, and participation in the sharing economy. Furthermore, the interaction between data and regulatory frameworks in the sharing economy with a special focus on the online platform Airbnb as well as the role of trade unions in the organization and mobilization of workers in the gig economy are also examined. In addition, barriers to switching between online platforms and alternative sharing approaches in the context of digital infrastructures are explored, and questions regarding internet policy, in particular net neutrality, are answered.

Group members have published widely on these topics, including in high-profile peer-reviewed conference proceedings and journals, as well as in anthologies and on blogs. During the reporting period, several online formats were also established to maintain the exchange of academic ideas even in times of COVID-19, such as the (online) lecture series “PLAMADISO Talks” (Platforms, Markets, and the Digital Society), in which a large number of renowned national and international guest speakers from various disciplines presented and discussed their research findings. The recordings of the presentations have been published on the YouTube channel of the research group.

In addition, two online symposia were held to provide a platform for interdisciplinary exchange between researchers, but also between academia and private and public decision-makers. For both events, excellent speakers from internationally renowned institutions were in attendance, for example from the Oxford Internet Institute (United Kingdom), the University of Groningen (Netherlands), Heinrich Heine University Düsseldorf, Aalto University (Finland), the University of Zurich (Switzerland), MIT (USA), the Max Planck Institute for Software Systems, and the University of Pennsylvania (USA). The first symposium, entitled “New Perspectives on the Digital Economy – Sharing, Gigs, and Platforms” (co-organized with Christoph Lutz from BI Business School Oslo, Norway), took place on October 16, 2020, and was followed by the “Symposium on the Web and Internet Policy” on December 9, 2020 (co-organized with Georgios Smaragdakis from TU Berlin), whose presentations were recorded and are also available on the research group’s YouTube channel.

In addition to research and transfer, the research group also continued to expand its network. As a result, a number of international fellows were hosted and research collaborations established. Three fellows visited the research group during the reporting period: Serpil Taş’s residency (Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste GmbH – WIK) was linked to a joint research project of the research group and WIK for investigating peer-to-peer-based sharing services in Germany. A research collaboration exists with Wolfgang Briglauer (Vienna University of Economics and Business, Austria) which empirically investigates the effects of net neutrality regulations in the USA. There is also a collaboration with William Lehr (Massachusetts Institute of Technology, USA) to study the effects of the COVID-19 pandemic on the internet. This collaboration extends to several joint publications, including a joint book project. In addition, during the reporting period there were numerous research projects with scientists at TU Berlin, the University of Cambridge (UK), the University of Northumbria (UK), the Massachusetts Institute of Technology (USA), the University of Pennsylvania (USA), and the Polytechnic University of Turin (Italy), among others.

Research group leader Volker Stocker, together with Zohar Efroni, head of the research group “Frameworks for Data Markets”, have been leading the inter-group working group “EU Regulations” since the beginning of 2021.

RESEARCH GROUP

“FRAMEWORKS FOR DATA MARKETS”

MEMBERS OF THE
RESEARCH GROUP

Julian Bolz

Dr. Zohar Efroni, LL.M.
(Cardozo) (Research Group
Lead)

Rita Gsenger

Prisca von Hagen

Prof. Dr. Axel Metzger, LL.M.
(Harvard) (PI)

Jakob Metzger

Lena Mischau

Filmona Mulugeta

Jana Pinheiro Goncalves

Marie Schirmbeck

Lukas Seiling

Lisa Völzmann

The research group analyzes the use of data in the digital economy from legal, psychological, and economic perspectives. Their work focuses on fundamental questions concerning private autonomy in the challenging relationship between data protection and contract law, the functioning of digital markets with their implications for competition law, and the status of the collection, sharing, and trading of data under civil law. The research also aims to shed light on the behavior of users with regard to personal data from the perspective of behavioral economics.

Within the framework of the research, three core questions arise:

1. Are consumers able to track the extent of data use by service providers under the current framework? How can their position be improved, both legally and through product and information design approaches (“legal design”)?
2. To what extent can the risks associated with the disclosure of personal data be methodically taken into account in the context of visualizing data processing aspects, in order to be able to address processes that influence decision-making, such as motivation, attention and awareness of the users, and to counteract cognitive biases?
3. Under what circumstances should the legal system intervene in economic realities in which conditions of access to data are determined by (dominant) market actors and contractual terms (including prices) can be adjusted and “personalized” based on personal data?

To address the research questions, three projects have been developed with the aim of investigating the different facets of data markets that have a large and direct impact on the digital everyday lives of citizens, by using an interdisciplinary toolbox.

Project “Data as a Means of Payment”: For many internet services, users do not pay a monetary price, but instead allow their personal data to be utilized. While the legal discussion on the disclosure of data in recent years has been conducted primarily from the perspective of data protection, the focus of the research group’s work will instead be on contract law. In fact, an EU Directive on certain contractual aspects of the provision of digital content and digital services (2019 / 770) adopted in the summer of 2019 addressed this issue.

In recent months, a number of directives – Data Governance Act, Digital Markets Act, Digital Services Act, EU Data Act – have been adopted at the EU level. The members of the research group examine these and future directives and identify their key aspects, which they make available to a wider public in thesis papers. In this manner, they attempt to meet the need for manageable and comprehensible guidance. Debate about the interpretation, implementation and impact of the various policies remains lively, and is a major focus of the group’s research.

Privacy Icons project: In this project, the group explores technical and design-oriented approaches to strengthening the autonomous decision-making ability of private consumers regarding the disclosure of their data. The central research question is: Can pictorial icons, called privacy icons, which reflect certain data processing aspects and their inherent risks, contribute to an informed and self-determined decision-making process among users before they consent to the processing of their data? Drawing on human information processing, the group analyzes which factors influence the decision-making processes of online users in the context of data protection, and how online users can be better supported in their decision-making process, taking these factors into account.

Legal framework of the data economy: In this project, the group is investigating the legal framework of the data markets currently being established. Among other things, data protection law, consumer protection law, and competition and antitrust law are relevant in this context, in addition to general laws governing obligations and contracts. This research requires, on the one hand, a review of the background of data protection law. On the other, the commercialization of personal rights needs to be examined in terms of its legal prerequisites and limits. The findings of the research group were presented, among others, at the Digital Congress, the Conference on Data Protection in the Digital Era in Istanbul, at a workshop of iRights, as well as in the form of thesis papers and as a blog post on the website of the Weizenbaum Institute.

RESEARCH GROUP
“DATA-DRIVEN BUSINESS MODEL INNOVATIONS”



MEMBERS OF THE
RESEARCH GROUP

- Felix Eigelshoven
- Bennet Etsiwah
- Eva-Marie Geier
- Stefanie Hecht
- Ana Burgueño Hopf

- Swathi Krishnaraja
- Antonia Pietrus
- Dr. André Renz
(Research Group Lead)
- Prof. Dr. Dr. Thomas
Schildhauer (PI)

ASSOCIATE
RESEARCHER

- Dr. Romy Hilbig

The research group combines theory formation concerning business model innovations with empirical analysis of sectoral, data-driven innovation processes in the fields of education, continuing education, and open data. In the course of digitalization and the accompanying datafication of society, i.e., the modeling of social reality using data structures as well as the use of this data, the research field of data-based business model innovations is acquiring a new dynamic. Today, data has a lasting influence on how new business models are structured and optimized. The group's work is aimed at helping companies and institutions to use research findings to identify datafication processes and to exploit them for business model innovations, both on a theoretical and on a practical level. To this end, both qualitative and quantitative research methods are used, such as interviews, surveys, observational studies, user behavior testing, decision-making research, and action research.

During the reporting period, the research group focused on three main areas of investigation in particular:

1. The development and implementation of artificial intelligence (AI) in the field of educational technologies (EdTech) and the changes it is bringing to the educational market.

In 2021, "Mapping the Field EdTech Berlin" conducted an extensive survey among Berlin-based EdTech companies regarding the current relevance and attitudes as well as future development potential regarding AI. The results map the new market dynamics of AI technologies for EdTech applications and highlight the challenge of a growing information asymmetry towards big data-driven platforms. The research group has likewise been able to provide impetus in the ethical discourse on the responsible use of AI technologies in various publications and presentations, and actively participates in various formats and discussion groups for a human-centered AI approach in EdTech.

2. The emergence of data literacy as a key competency for self-empowerment in a digital and datafied society.

The research group's activities on data literacy primarily include hands-on collaborations with business partners, curating exchange formats with industry specialists, and producing several podcasts that the group publishes in the podcast series entitled "Voices for the Networked Society". One hands-on collaboration also focused on evaluating the potential for using digital data in the corporate further training process of a medium-sized IT company. Portions of the project findings were subsequently published as a "Data Awareness Canvas" in an expert anthology.

3. The human-centric design of data portals in general and open data portals in particular for generating data-driven business model innovations.

Data portals and open government data portals in particular can be the starting point for data-based business model innovations. Accordingly, software design that is as intuitive and human-centric as possible is necessary. This also includes the language used (UX writing). In two projects, the research group approached the subject from different angles. On the one hand, from the perspective of citizens with regard to open government data portals and, on the other hand, from the perspective of public administration employees. The former were asked about intelligibility in open government data portals as part of a survey.

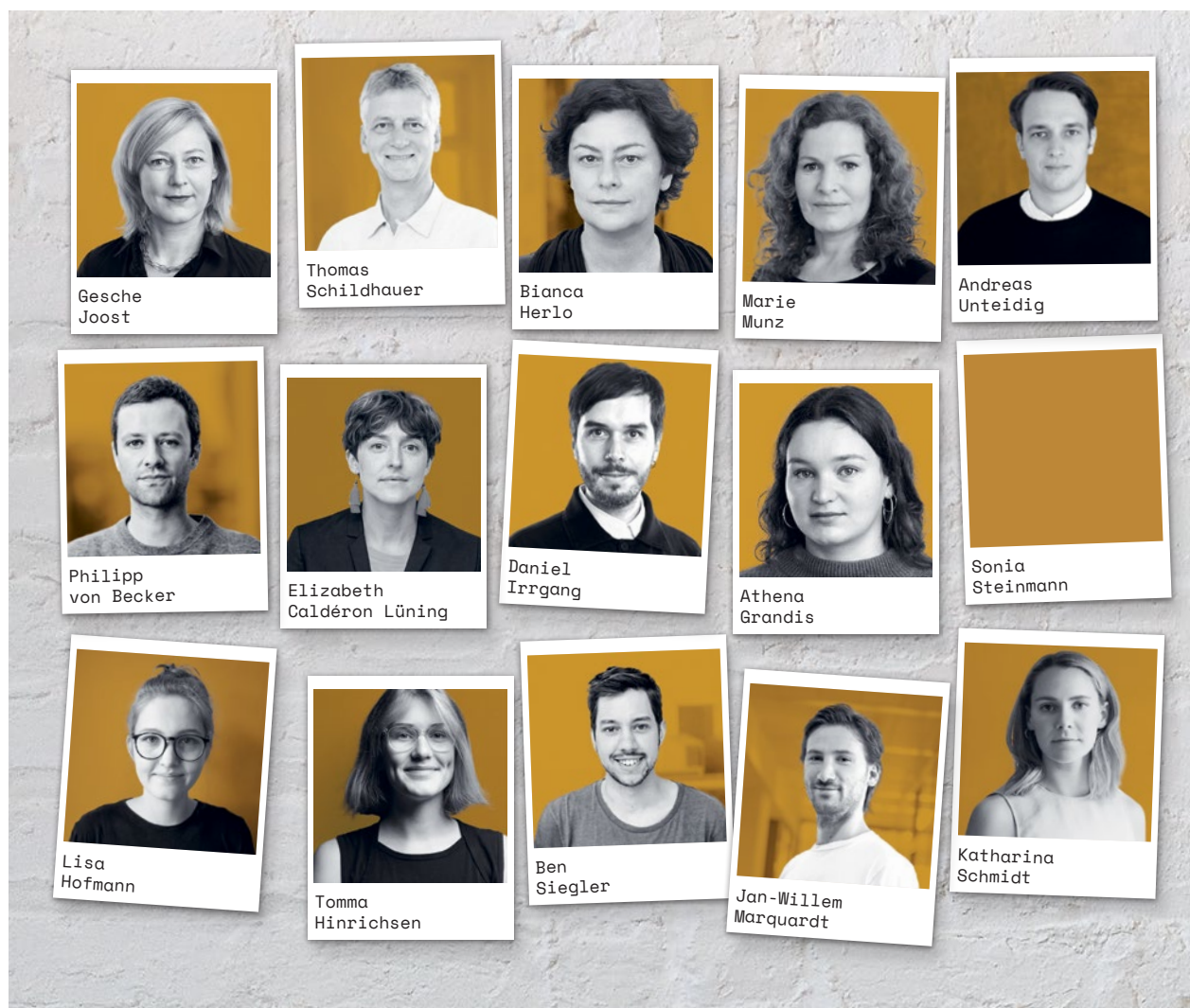
The findings of the three main topics were successfully positioned in various anthologies and recommendations for action, such as white papers and draft policy papers (e.g., the white paper "Artificial Intelligence in Higher Education", AI-Campus). In addition, the research group was able to establish new networks with initiatives such as Unblack the Box, Technologiestiftung Berlin or Utrecht Data School during the reporting period and intensified business collaborations.

In the transfer project "Towards digital schools", a collaboration between the research groups "Data-driven Business Model Innovations" and "Education and Advanced Training in the Digital Society" and Käthe-Kollwitz-Gymnasium in Berlin, the complexity of digital transformation processes in schools is being studied in a scientific and application-oriented manner. As part of another collaboration with the research group "Education and Advanced Training in the Digital Society" a nationwide EdTech survey was conducted to systematically capture EdTech applications.

In 2021, innovation researcher Reinhold Pabst was a virtual research fellow in the research group. Together with the team, Pabst developed new workshop formats that found their way into the group's transfer activities and publications. Research on the impact of the Corona pandemic on education, which began in 2020, will also continue. For example, the research group is working with associate researcher Romy Hilbig on various projects related to digital transformations in education in the context of the pandemic.

RESEARCH GROUP

“INEQUALITY AND DIGITAL SOVEREIGNTY”

MEMBERS OF THE
RESEARCH GROUP

Phillip von Becker

Athena Grandis

Dr. Bianca Herlo
(Research Group Lead)

Tomma Hinrichsen

Lisa Hofmann

Dr. Daniel Irrgang

Prof. Dr. Gesche Joost (PI)

Elizabeth Calderón Lüning

Jan-Willem Marquardt

Marie Munz

Prof. Dr. Dr. Thomas
Schildhauer (PI)

Katharina Schmidt

Ben Siegler

Sonia Steinmann

ASSOCIATE
RESEARCHER

Dr. Andreas Unteidig

The research group investigates scopes for action and decision-making for the sovereign use and acquisition of digital technologies, and how they can be shaped. The aim is to contribute to the construction of new guiding principles for people in the digital world and to develop a European perspective. In the complex relationship between regulation, technology development and digital competencies, qualitative research is conducted and questions are then asked as to

1. How individuals and collectives deal with increasingly complex technologies and the resulting changes in relationships of inequality,
2. How informal acquisition and exploitation practices co-determine the negotiation processes related to control, and
3. How issues of regulation can be framed as prerequisites for shaping civic and political participation.

The different perspectives of the research group are grounded in participatory and transdisciplinary design research, in which methodological approaches such as living labs and social living labs are anchored. Based on the research questions, dissertation projects, studies, and transfer projects have been developed to address the various practical and discursive developments related to data sovereignty, digital participation, digital literacy, digitalization strategies oriented towards the public good, and policymaking in order to draw overarching conclusions regarding questions of digital inequality and digital sovereignty.

Highlights in the reporting period include:

Intercultural Spaces for Participation (INTERPART): Together with the Berlin Senate Department for Urban Development, the city of Wiesbaden, and other academic partners, participation experts, and urban planning specialists, living labs in Berlin and Wiesbaden were used to investigate how digital participation can be made more inclusive in the post-migrant, networked society. Working with representatives from public authorities, local initiatives and district offices in Berlin and Wiesbaden, the project organized numerous interventions, expert workshops, and dialogs. From the multitude of positions from science and industry, nuanced answers to the research questions emerged. Co-research focused on 1) the importance of storytelling for enabling and shaping intercultural dialog spaces, 2) options for cross-media or hybrid dialog design that combines analog and digital participation, and 3) possible fields of action for transforming institutional frameworks in planning administrations.

Among other things, new research methods have emerged from the project (such as transdisciplinary research through podcasts) and expert publications on prerequisites for intercultural accessibility in administrations. In fall 2021, Jovis-Verlag (open access) will publish the reader “Beteiligung interkulturell gestalten” (Creating Intercultural Participation).

Digital City Alliance Berlin: Digital City Alliance Berlin is a transdisciplinary network of organizations and individuals from academia and civil society, co-initiated by the research group. The alliance focuses on the topics of urban policy and digital transformation and has been advising on the process of developing Berlin’s digitalization strategy since March 2019 – with the goal of building a broad alliance consisting of stakeholders from civil society, academia, and parliamentary representatives. The research group’s activities in the reporting period included participation in several events: the online ideas workshop “Participation in the Digital City” (Partizipation in der digitalen Stadt) in cooperation with CityLAB Berlin and the Einstein Center Digital Future as part of Berlin Science Week, the first round table on digitalization policy in February 2021, and a party talk with representatives of the SPD, Greens, Die Linke, CDU and FDP entitled “Election Special: What is Berlin digitalizing towards?” (Wahl-Spezial: Wohin digitalisiert Berlin?) in June 2021.

Practicing Sovereignty – Digital Involvement in Times of Crises: The international conference with accompanying exhibition and workshops “Practicing Sovereignty – Means of Digital Involvement” was scheduled to be inaugurated as a joint event of the Weizenbaum Institute and UdK Berlin on March 12, 2020. However, due to the pandemic, the event had to be canceled one day before the opening. In order to revive the debate in a different form, the participating international researchers, artists, designers and activists were invited to submit their contributions in written form. The results will be published in the form of an English-language anthology in November 2021 by Transcript Verlag (open access). The topic of the canceled conference is currently being reviewed, updated and expanded in order to be able to discuss it in the context of the Weizenbaum Conference 2022. The concept of digital sovereignty has gained further importance in light of the global crises of the COVID-19 pandemic and the increasingly clear ramifications of climate change, also in Europe, which are directly related to migration crises fueled by geopolitical conflicts. The intense debate surrounding the concept of digital sovereignty is further stimulated by these crises, as it is embedded in a fundamental discussion concerning democratic principles, civil rights, and national identities.

RESEARCH GROUP
“DIGITAL INTEGRATION”



MEMBERS OF THE
RESEARCH GROUP

- | | |
|------------------------|---|
| Eyad Ibrahim Agha | Anita Hildenbrandt |
| Carla Bieg | Dr. Antonia Köster
(Research Group Lead) |
| Julio Brandl | Prof. Dr. Hanna Krasnova (PI) |
| Mille Viktoria Døssing | Nils Messerschmidt |
| Sebestyén Gergely | Maximilian Paul |
| Jana Gundlach | Max Töpfer |

ASSOCIATE
RESEARCHER

Olga Abramova

Refugee flows, migration, and the current COVID-19 pandemic have drawn increased global attention to the issues of social inclusion, social cohesion, and social inequality. Against this backdrop, the research group is investigating the potential of digitalization for promoting the inclusion of vulnerable populations in society. The research questions address current societal challenges in this area. The focus is on the influence of the use of social media and other digital solutions on the processes of social inclusion, but also on the nature of how stressors and fatigue manifest. To answer the respective research questions, empirical methods were used and a large number of surveys and qualitative interviews were conducted.

A selection of ongoing projects follows:

Social media and the perception of inequality: This research project addresses growing inequality in society and examines the role of social media in the perception of social inequality. Preliminary findings indicate that users of social networks such as Instagram or Facebook perceive less wealth inequality in society. The project is being developed together with the research group “Digital Technologies and Well-being” in collaboration with research fellow Monideepa Tarafdar.

Smartphone and tablet use by children (in the pandemic): This research project focuses on children and their usage behavior with regard to digital technologies. Initial approaches examine the influences of parental behavior on the children’s use of technology. It also explores what benefits and concerns parents have about their children’s use of end devices. Preliminary findings obtained in collaboration with research fellow Ofir Turel were presented and published at the business informatics conference in Potsdam. Another study deals with the increased screen usage of children during the pandemic and possible related effects. In collaboration with the research group “Education and Advanced Training in the Digital Society”, the challenges of digital education, among others, were clearly formulated. These findings were communicated to civil society with the help of the Weizenbaum transfer formats and will also serve as the basis for further scientific findings in the context of a panel discussion.

Social inclusion of refugees: In a research project on this topic, the potential of information and communication platforms for the social inclusion of refugees in the host country were investigated. The study on the empowerment-enhancing use of technology by refugees was published this year at the Hawaii International Conference on System Sciences (HICSS). Furthermore, a current research project examines the situation of refugees with children during the Corona pandemic with a focus on technologies and communication tools used during remote schooling. The focus is on the challenges and benefits of digital media experienced both by affected children and their parents. This project will conduct 30 interviews with affected families.

Digital work and the pandemic-driven changes in collaboration: At the heart of this project is the observation that the COVID-19 pandemic has significantly advanced the digitalization of day-to-day work. Employees have had to adapt to working from home within a very short time, and employers have had to provide the corresponding infrastructure. Along with this, multi-layered changes can be observed, many of which will remain even after the pandemic: From digital communication and collaboration in organizations, to levels of conflict between work and family, to changing frameworks such as maintaining one’s mental hygiene and health. This research project specifically examines the impact of remote work and virtual teams on mental health as well as cohesion among colleagues.

Social media and stressors: This research project analyzes the effects of information organization and presentation on mental stressors of social media users and problematic forms of behavior (for example, stereotyping). Preliminary findings provide indications of a link between a perceived information disorder on social media and associated effects of stress on users. This project is being developed in collaboration with Monideepa Tarafdar.

The research findings of the group have been presented in various (virtual) talks and transfer events during the reporting period. For example, the research group supported a conference track at the European Conference of Information Systems. In the reporting period, the group also contributed to the position paper “Digital Education Action Plan” as well as to “Portal Wissen”, the research magazine of the University of Potsdam. Another highlight of the past year was the organization of the Weizenbaum Forum “Vernetzt und abgehängt: Ungleichheit in digitaler Bildung” (Networked and disconnected: Inequality in digital education) and a radio interview on “Messaging Services & Privacy: What can we use for which purposes?”.

4.3 Research area III

**Democracy – Participation –
Public Sphere**

How is digitalization changing norms, transmission processes and participation in liberal democracies? On digital platforms, blogs and social networks, political actors and citizens are targets for criticism, hate comments, lies and manipulation. On the other hand, online media, internet presences and social media are virtually essential when it comes to information, the observation of the public sphere, and participation in public discourse.

This research area explores the question of how participation processes in contemporary democracies are changing fundamentally and in the long term under the influence of digital technologies, and how this development affects the formation of public opinion and discourses. The problems and consequences of digitalization for political life in Germany are manifold and far-reaching. They concern, for example, the role of social media and their use in election campaigns, the information behavior of net-savvy or politically distant target groups, the description of swarm intelligence in political scandals, the dynamics of political mobilization through new forms of digital activism, also called clicktivism, the role of digital networks in political protest and outrage dynamics, the consequences of propaganda and extremism on the internet, and the dissemination and use of political content on the internet in the context of depoliticization, radicalization, and mobilization processes.

RESEARCH GROUP

“DEMOCRACY AND DIGITALISATION”

MEMBERS OF THE
RESEARCH GROUP

Sebastian Berg

Sonata Cepik

Veza Clute-Simon

Dr. Rebecca-Lea Freudl
(formerly Korinek)

Sarah Großheim

Karoline Helbig

Prof. Dr. Jeanette Hofmann
(PI)

Manuela Irmeler

Niklas Rakowski

Katja Reuter

Dr. Thorsten Thiel
(Research Group Lead)

The research group investigates the reciprocal relationship between digitalization and democratic self-determination. It explores how liberal democratic societies acquire digital technologies, but more importantly, how democracy is transformed in the digital constellation.

With regard to political participation, the focus is on the question of how individual and collective agency as well as the forms of political interaction are changing, and how this transformation is to be evaluated in terms of democratic theory. It examines how the framework conditions of political action change in the context of democratic representation, in relation to the state regulatory framework, or the possibility of extra-parliamentary forms of organization and intervention.

Where changes in public sphere(s) are concerned, for example, the significance of datafication and the algorithmic selection of information as well as its proliferation in the context of platforms organized by private companies and which are globally positioned is discussed. Based on this, the extent to which democracies are able to structure and moderate “their” public spheres and the means they use to do so will be examined.

In the area of law and domination, the group explores, among other things, the extent to which fundamental democratic rights – such as privacy or freedom of assembly – are changing in response to digitalization: Are areas protected by fundamental rights being altered by challenges such as constant data collection or machine learning in such a manner that they would need to be redefined?

The aspect of the digital constellation cohesively reconciles the work of the research group. In it, a proposed democratic-theory interpretation of the digital society is developed by conceptually reflecting on and formulating the interplay of technology, society, and democracy. This area was the focus in the first years of funding. The four core areas of the group – digital constellation, the public sphere, participation, domination – are being researched in various individual projects, which include both qualification theses and additional joint projects of the staff members of the research group.

In the area of political participation, three projects were advanced in the year in review: A doctoral project focuses on the datafication of political representation and attempts to answer the central question “How is the interaction between citizens and their representatives being reconfigured?” The research looks at the extent to which contemporary forms of surveying citizens are qualitatively different from older forms of statistics and opinion research, how they shape the mobilization of voters and the formation of political identity, and how they structure the expression of political conflict. A second project, for which the research group is jointly responsible, addresses the changing form of democracy by examining projects in the civic tech sector for their implicit critique of democratic

practices. Finally, the third project examines a specific democratic innovation, called civic hackathons, which received much attention during the Corona crisis. The #WirVsVirus hackathon of the German government as well as the follow-up program UpdateDeutschland are examined as formats that restructure the participation of citizens and advance the interaction between politics and civil society.

Two doctoral projects concern themselves with the public sphere: The first deals with freedom of assembly in the virtual space from a jurisprudential perspective. The other examines the question of how deliberative democratic approaches need to be expanded in order to respond to a culture of discourse that has been greatly transformed by social networks. In addition, the scholars continue to pursue the question of the possibilities of regulating the digital public sphere. The approach here differs from most approaches in the field in that it does not ask what kind of regulation is possible or effective, but instead reflects on the nature of the intervention democratic states may legitimately undertake in the infrastructure of their public sphere.

In the area of law and domination, the researchers focused on two main aspects during the reporting period: on the one hand, the question of how democracies can catch up to the automation of decision-making, and on the other hand, the discursive surge in talk of digital sovereignty as well as its conceptual significance and implementation.

The research group hosted four fellows during the reporting period, with whom it addressed in particular the cross-disciplinary topic of exploring the power of platforms: Robert Gorwa’s (University of Oxford, United Kingdom) research focuses on platform regulation. He was a fellow for the second time during the reporting period; he had raised the funds for the fellowship externally in a competitive process. Lisa-Maria Neudert’s (University of Oxford, United Kingdom) research focuses on platform governance using AI. Irina Kalinka (Brown University, USA) works on concretizing the concept of user democracy, which she reconstructs as a mode of political participation in the context of digital platforms. Finally, Martin Seeliger (University of Hamburg) is researching the digital structural transformation of the public sphere and used the fellowship, among other things, to complete a more comprehensive volume on the topic. In the summer semester of 2021, research group leader Thorsten Thiel was Acting Chair for Comparative Government at the University of Erfurt.

RESEARCH GROUP
“DIGITAL CITIZENSHIP”



MEMBERS OF THE
 RESEARCH GROUP

Prof. Dr. Martin Emmer (PI)

Emilija Gagrčin

Christina Hecht

Katharina Heger

Sofie Jokerst

Marlene Kunst

Laura Leißner

Mona Plenker

Nadja Schaetz

Annika Schütz

Paula Starke

Christian Strippel

ASSOCIATE
 RESEARCHER

Jun-Prof. Dr. Pablo Porten-Cheé
 (Research Group Lead until 2021)

The research group investigates how political participation and civic engagement develop under the conditions of digitalization and which factors can explain political and social participation today. To this end, several processes of change will be investigated systematically: Changing and/or newly emerging attitudes toward and expectations of civic engagement in democracy – called networked civic norms – are identified and their consequences for the political actions of people are analyzed. A current sub-aspect of this is also the study of the participation in discourse by people in the context of hate speech.

In its research, the research group aims, first of all, to determine how people view their relationship with democratic processes and values today, and secondly, how this relationship is transformed over time by the context of digital media environments. Theories are formulated based on broad empirical work. For this purpose, the research group collects and examines data from representative telephone surveys with a panel design, from qualitative interviews and focus groups, as well as web-based experiments with citizens. Methodological research also forms part of the research group's work, including simulations, innovative survey methods, and the tracking of users.

Four research topics characterized the work of the research group during the reporting period:

Networked civic norms: Using qualitative interviews and group discussions by regular users of social media, the research group worked out how ideal concepts of citizenship are shaped by individual experience with calls for political action and mutual observation of the same on social media. The resulting networked civic norms include, for example, the careful composition of one's personal information menu and a commitment to maintaining a positive discourse environment online in terms of content and form. A manuscript on this will be submitted to an international journal shortly.

Long-term development and explanation of political participation in Germany: In annual, quantitative survey studies, the research group investigates which personal and media characteristics affect the exercising of political participation. These factors were investigated for the first time in the fall of 2019 in a telephone survey with approximately 1,300 people in the FU Berlin living lab in a representative longitudinal survey for the German population; a second wave of the survey was conducted in the fall of 2020. In particular, the findings provide insight into the unique conditions under which participation took place during the COVID-19 pandemic. The findings have been formulated for the general public in a Weizenbaum Report, and an initial research publication on the longitudinal data is currently in preparation.

Factors of participation in online petitions compared across countries: In a comparative international online survey in Australia and Germany, the group and its fellow Ariadne Vromen from Australian National University in Canberra (Australia) investigated how certain individual characteristics as well as characteristics of online media content affect participation in online petitions. Storytelling in the petition texts and the visualization of the number of previous participants proved effective. The results are currently being published in an international journal.

Online Civic Intervention (OCI) concept: PhD student Marlene Kunst completed her research on new intervention-related forms of political participation with three publications on how people deal with hate speech and incivility in the summer of 2021.

Another empirical project, which investigates the emergence of discourse norms on the net and factors for their emergence on the basis of simulated interventions by users in online discussions, was presented at the 2021 Weizenbaum Conference. A publication on it is in preparation.

Collaboration with fellows was severely limited during the reporting period. Some residencies were postponed to the end of 2021 (Michael Xenos, Ariadne Vromen). Neta Kligler-Vilenchik and Pablo Boczkowski conducted their fellowship virtually in summer 2021.

RESEARCH GROUP

“NEWS, CAMPAIGNS AND THE RATIONALITY OF PUBLIC DISCOURSE”

MEMBERS OF THE
RESEARCH GROUP

Frederik Körber

Franziska Martini

Prof. Dr. Christoph Neuberger
(PI)

Anna-Theresa Mayer

Dr. Jakob Ohme

Mona Plenker

Annika Schütz

Xixuan Zhang

ASSOCIATE
RESEARCHERProf. Dr. Ulrike Klinger
(Research Group Lead until the end of September 2020)

The research group performs theoretical and empirical examinations of the content and processes of political communication in digital public spheres with a focus on election campaigns and discourse dynamics on social media such as Facebook or Twitter. In the reporting period, the focus was primarily on the following projects:

Continued research on EU election campaigns on Facebook in 2019. After 14 coders manually coded the content of approximately 20,000 Facebook posts from 13 different countries last year, the data obtained was then analyzed in terms of its content. The aim of this study is to identify which factors are able to predict the popularity of content, and thereby discourse dynamics. The findings were presented at the annual conference of the International Political Science Association (IPSA) in July 2021. The research group also studied election campaigns on Facebook as part of a project on the 2017 German federal election. The focus here was on users and their commenting behavior on the parties' social media pages during the campaign phase. Among other things, the study compares the various Facebook pages and looks at whether echo chambers are forming.

Also central this year was a transfer project on the federal election and the state elections in September 2021. In cooperation with the European New School of Digital Studies at European University Viadrina, the research group is working on a website that is intended to inform journalists and citizens about which topics are being discussed in social networks, who is particularly prominent in this regard through their activities, and whether there are any indications of disinformation campaigns.

As part of her doctoral project, Xixuan Zhang also looked at cascades of information diffusion on Twitter. Most empirical diffusion studies are based primarily on the analysis of the main actors and the messages with the greatest dissemination on retweet networks. This can lead to an overestimation of the connections between tweeting and retweeting actors without taking into account diffusion processes, intermediary actors, and the content of retweets. Using cascade analyses and quantified dynamic network analyses, Zhang investigated how tweets from different communities related to #FridaysForFuture spread on the microblogging platform. In order to do so, she compared how widely, broadly, and quickly users retweeted the content of various communities, such as tweets from environmental activists, left-wing actors, or political right-wing actors, among other things.

For a sub-project of her doctoral thesis, Franziska Martini conducted a content analysis on deletion discussions and editing processes in Wikipedia biographies. The aim was to gain a nuanced understanding of which factors have an influence on the emergence of gender inequality in the online encyclopedia.

Together with the research group "Democracy and Digitalisation", the research group organized the joint annual conference of the specialist groups for communication and politics of the German Communication Association (DGPK), German Political Science Association (GPSA) and Swiss Association of Communication and Media Research (SACM), which was held virtually in mid-February 2021 due to the pandemic. In a total of 17 talks, current research projects on the conference topic "Opinion Formation and the Power of Opinion in Dissonant Public Spheres" (Meinungsbildung und Meinungsmacht in dissonanten Öffentlichkeiten) were presented. A total of 192 persons attended the conference. The keynote speech kicking off the conference was delivered by Axel Bruns from the Digital Media Research Centre of the Queensland University of Technology in Brisbane (Australia).

Ulrike Klinger has been a formal associate researcher at the Weizenbaum Institute since April 28, 2021. The position of Research Group Lead is currently vacant.

RESEARCH GROUP

“DIGITALISATION AND THE TRANSNATIONAL PUBLIC SPHERE”

MEMBERS OF THE
RESEARCH GROUP

Katharina Bauer

Pauline Bombeck

Kilian Bühling

Dr. Annett Heft
(Research Group Lead)

Dominik Hokamp

Miriam Milzner

Prof. Dr. Barbara Pfetsch (PI)

Mona Plenker

Susanne Reinhardt

Carolin Stock

Annika Schütz

Dr. Michael Vaughan

Vadim Voskresenskii

ASSOCIATE
RESEARCHERS

Dr. Stefan Baack

Vivien Benert

Dr. Matthias Hoffmann

Jun-Prof. Dr. Curd Knüpfer

The research group studies the role that digital technologies and media play in the emergence of (trans)national public spheres, communication infrastructures, political issue networks, and processes of political mobilization. In answering the question of the extent to which the internet contributes to the formation, consolidation, and transnationalization of digital communication ecologies, it focuses on right-wing populist and far-right groups, media, and parties. Hence, it investigates digital communication environments and online issue-focused public spheres that emerge in connection with critical issues such as migration, asylum, anti-feminism or anti-Islamism in various Western democracies.

During the reporting period, ongoing research projects were continued and new collaborative projects were launched. The research group's work focused on the qualification theses of junior researchers, inter-group research projects, some of which were carried out with the involvement of fellows, and teaching at the Institute for Media and Communication Studies at FU Berlin.

In the context of Susanne Reinhardt's qualification thesis, which deals with discursive alliances against feminism and equality politics in digital public spheres, a joint research project with visiting scholar Elena Pavan from the University of Trento (Italy) was initiated, in which political anti-feminist discourses are examined in a comparison between countries. Susanne Reinhardt presented research findings at the international conference "Populism, Gender and Feminist Politics Between Backlash and Resistance" at the Scuola Normale Superiore in Florence, and another presentation took place at the specialist group conference "Medien und Ungleichheiten" (Media and Inequalities) of the specialist groups for International and Intercultural Communication and Media, Public Sphere and Gender of the DGPK in fall 2021. As part of Vadim Voskresenskii's qualification thesis on social media in Russia and its transnational links to European right-wing online communities, a paper was submitted for review, and work is underway on two other sub-projects of the qualifying thesis. The research was discussed with the expert public at the IPSA / AISP 26th World Congress of Political Science in July 2021.

Inter-group research on the digital communication and interaction of right-wing populist parties in the context of the 2019 European elections was continued as part of preparations for publications. A sub-study of this research on anti-elitism in a comparison between European countries was presented at the International Communication Association General Conference 2021 and prepared for publication. In addition, research collaborations with international fellows were the focus of inter-group research activities. In a cooperation between former Fellow Hans-Jörg Trenz from the Scuola Normale Superiore in Florence (Italy),

Annett Heft, Michael Vaughan, and PI Barbara Pfetsch, two special issues of the journal "Javnost – The Public" were published on the topic "Reclaiming the Public Sphere in a Global Health Crisis". Both thematic issues were compiled in an authors' workshop that brought together around 50 international researchers from Europe, North and South America, Asia, and Australia in January 2021 for a two-day exploration of changes in the public sphere and public spaces in the context of the COVID-19 crisis.

The research group also collaborated with other former fellows for its projects. For example, work continued with Carsten Schwemmer (University of Bamberg) and Lance Bennett (University of Washington, USA) on publication projects initiated within the framework of the fellowships. In addition, other renowned international experts enriched the work of the research group. Jordan McSwiney (University of Sydney, Australia) and Elena Pavan (University of Trento, Italy) were digital research fellows of the research group. With Jordan McSwiney, a study with the title "Sharing the Hate? Memes and Transnationality in the Far Right's Digital Visual Culture" was conducted, which was published in a special issue of the journal "Information, Communication and Society". Together with Nina Hall (Johns Hopkins University, USA), Michael Vaughan and Annett Heft are collaborating on a project called "Right Wing Digital Advocacy Organizations", which explores how and why (or why not) right-wing populist organizations mimic the digital model of "OPEN" civil society organizations.

In addition, PI Barbara Pfetsch and research group leader Annett Heft were co-organizers of the third Weizenbaum Conference "Democracy in Flux – Order, Dynamics and Voices in Digital Public Spheres", which was held as a hybrid conference at the Weizenbaum Institute on June 17-18, 2021. For this conference, numerous international guests were invited, panels on the changes in democracy in the digital constellation were held, and an extensive supporting program was organized, which among other things, addressed the transfer of knowledge into practice. Annett Heft is also co-editing a special issue of the new "Weizenbaum Journal of the Digital Society".

She was also actively involved in the work of the Weizenbaum Institute in her roles as a representative of the research group leaders at the institute and as head of the Scientific Council. Numerous transfer activities such as participation in events, media interviews and guest lectures served to communicate the research findings to society.

4.4 Research area IV

Responsibility – Trust – Governance

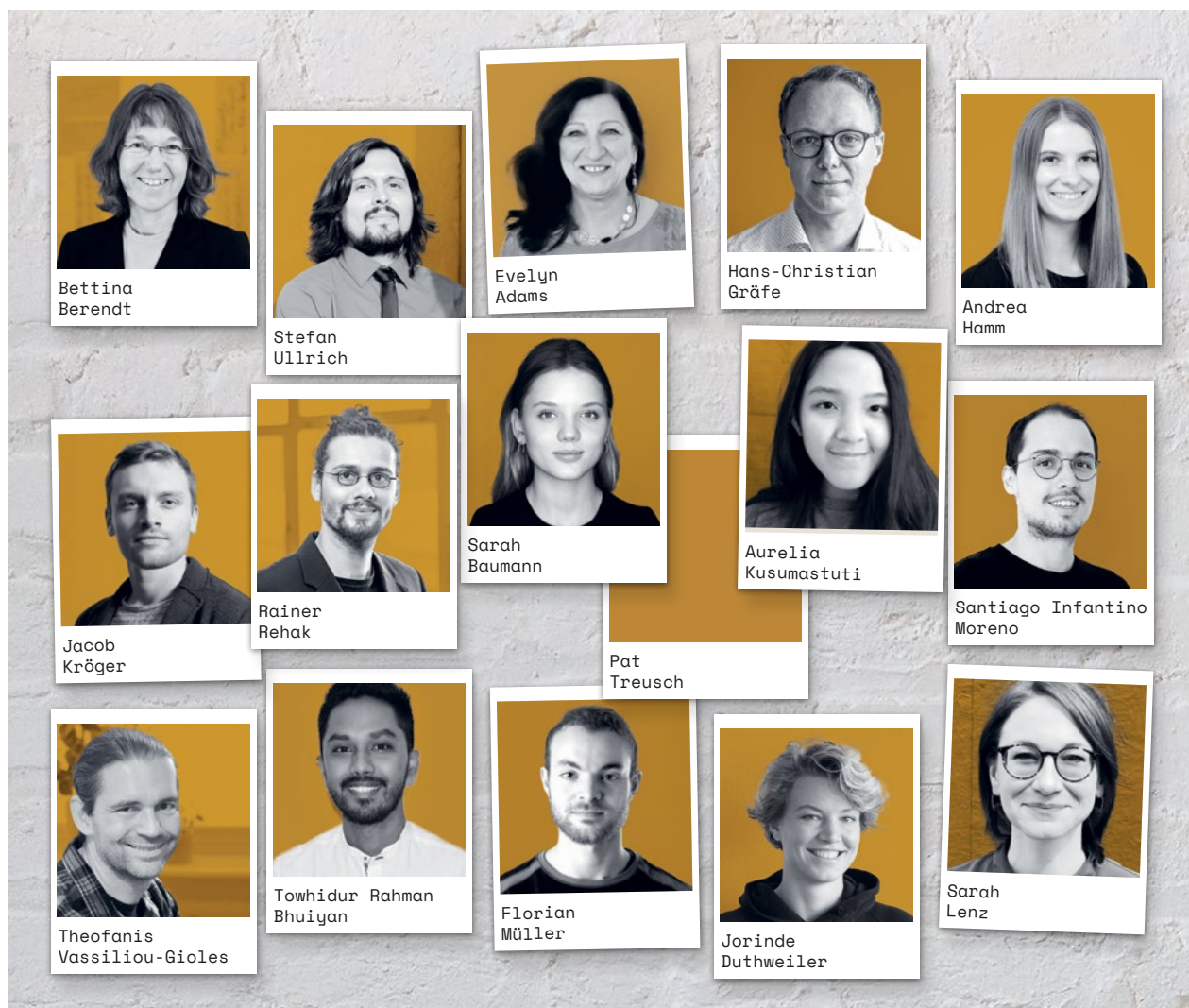
This research area examines which responsibilities result from digitalization, or should exist, how the necessary societal trust can be promoted with regard to digitalization, and which governance structures can be used to overcome the challenges of digitalization.

Digitalization promotes sustainable innovation in society and the economy. Today, big data, artificial intelligence, and in particular machine learning are omnipresent. The convergence of these new technologies is leading to increasingly complex digital ecosystems. Data is still being collected without the knowledge of users and processed in a non-transparent manner. As a result, scientific and societal discourses are increasingly shaped by concerns regarding privacy and the right to informational self-determination, as well as doubts about fairness and, along with new, complex possibilities for data theft, concerns about the misuse of data. This continues to be accompanied by a growing crisis of trust, raising questions about responsibility and liability, as well as appropriate governance mechanisms.

The research area therefore places responsibility, trust, and governance at the forefront of its efforts to explore the impact of digitalization and positively shape technological change.

RESEARCH GROUP

“RESPONSIBILITY AND THE INTERNET OF THINGS”

MEMBERS OF THE
RESEARCH GROUP

Evelyn Adams

Sarah Baumann

Prof. Dr. Bettina Berendt
(PI)

Towhidur Rahman Bhuiyan

Jorinde Duthweiler

Hans-Christian Gräfe

Andrea Hamm

Santiago Infantino Moreno

Jacob Kröger

Aurelia Kusumastuti

Florian Müller

Rainer Rehak

Dr. Stefan Ullrich
(Research Group Lead)

Theofanis Vassiliou-Gioles

ASSOCIATE
RESEARCHERS

Dr. Sarah Lenz

Dr. Pat Treusch

The research group is led by Stefan Ullrich and examines key concepts of digitalization, ranging from Industry 4.0 to smart citizenship and data platforms, in terms of responsibility, trust, security, liability, and regulation as part of its interdisciplinary research. An important goal of the research is the identification of key terms, actors, and techniques, which will be listed in a glossary for future research and policy decisions. Research is conducted both in dissertation projects and with the help of transfer projects.

Jacob Kröger deals with privacy issues related to sensor data from networked devices. Utilizing findings from experimental research and based on existing products and patents, he is investigating the type and scope of sensitive information about users that can be derived from sensor data in cooperation with the University of Bamberg. In addition to the sensors and technologies built into smartphones, he is researching data from eye-tracking devices, microphones, smart electricity meters, and motion sensors, which are now increasingly common in daily life and in some cases constantly surround us. Jacob Kroeger's ten technical publications to date, one of which won the Best Paper Award at the ARES2020 conference, have enjoyed considerable media interest.

Another emphasis of the group is on the Social Internet of Things and the question of whether or how sensor technology can be used by citizens' initiatives and journalists for a more sustainable future in cities and communities. The initial results of Andrea Hamm's dissertation in this area, which spans several research groups, are the identification of key factors for the sustainable engagement of civil society actors. Three factors are essential for this: (1) The data sovereignty of citizens in the interconnectedness of data, (2) The use of open and accessible technology, and (3) The narratives associated with sustainability discourse. The research material has a strong connection to the cross-sectional format "Digitalisation & Sustainability"

Hans-Christian Gräfe focuses his research on the legal assessment of automation and AI in (social) media. In addition to contributions to the expert public, his involvement in the working group "AI and Social Media" of the AI Study Commission of the German Bundestag contributed significantly to the transfer of knowledge. This topic encompasses both the production and distribution as well as the regulation of digital content with the aid of highly automated information technology systems. Hans-Christian Gräfe has examined the systems and results of automated text generation from a copyright and media law perspective. In the context of content distribution, concerns regarding disinformation are of particular relevance against the backdrop of the COVID-19 pandemic and the 2021 super election year. Media intermediaries in particular are increasingly coming under the scrutiny of legislators and regulators.

Another focus of the group is examined in Rainer Rehak's dissertation, which deals with the social asset of informational trust and the role of IT security for the networked society.

In his dissertation on "Critical Identities", Theofanis Vassiliou-Gioles examines ways to strengthen the self-determination of users when it comes to the use of their personal data by mapping and formally disclosing not only the gathering, but also the intention and possible use of personal as well as derivable personal data.

In addition to the technically focused findings, the group contributes significantly to the institute's transfer activities. Recommendations and current proposals for the regulation of the internet were explored in cooperation with Telemedicus at two digital conference weeks in fall 2020 and summer 2021. Initial findings from the dissertation projects of Hans-Christian Gräfe and Andrea Hamm will be compiled and discussed in an interdisciplinary fashion at an interoperability workshop for the Media Authority of North Rhine-Westphalia. Rainer Rehak's theoretical groundwork also forms the basis for the development of concrete proposals for improvement which have found their way into political decision-making processes – not least through his contribution to the data protection impact assessment of the Corona warning app. In addition to the aforementioned involvement in the German Bundestag's AI Study Commission, research group leader Stefan Ullrich collaborated on the expert report for the German government's Third Equality Report, entitled "Shaping Digitalization for Gender Equality" (Digitalisierung geschlechtergerecht gestalten)

An international and interdisciplinary project of the working group are the "Ethics Dialogues", which are a high-level exploration of the boundary between technical and societal issues via specific topics. The series of events is a collaboration of the Weizenbaum Institute – led by Institute Director and PI Bettina Berendt – with the AI for Society Signature Area at the University of Alberta (Canada) and the Center for Digital Ethics and Policy at Loyola University Chicago (USA). A series of online conferences in spring 2021 brought together over 190 participants from academia, industry, and politics, among them experts from Canada, the USA, Germany, and other countries who work in the interdisciplinary fields of computer science / AI, philosophy / ethics, and political science. Topics included "The Ethics of Contact Tracing", "Surveillance and Carcerality", and "Whistleblower Protections". The large-scale three-day final symposium was entitled "Ethics Dialogues in the Age of Smart Systems".

RESEARCH GROUP
“SHIFTS IN NORM SETTING”



MEMBERS OF THE
RESEARCH GROUP

Paul Dürr	Jana Pinheiro Goncalves
Alexandra Keiner	Finn Schädlich
Lisa Sophie Markschies	Simon Schrör (Research Group Lead)
Prof. Dr. Axel Metzger, LLM (Harvard) (PI)	Tetiana Shportak
Ferdinand Müller	Laurie Stührenberg
Huy Nguyen	Prof. Dr. Herbert Zech (PI)

ASSOCIATE
RESEARCHER

MLaw Pablo Schumacher

Who creates norms? How are they implemented? And how does the potential of social actors to set norms change? The research group systematically investigates developments and interdependencies in *social, legal, and technical* norms against the background of the networking and digitalization of society.

Social norms are the least obvious, but at the same time the most fundamental rules that appear to change along with the digitalization of society. The research group's work systematically incorporates the socio-normative dimensions which the objects of study are based on. *Legal norms* – whether they are national and European laws, international agreements, or private codes – are increasingly in flux as a result of digitalization. Shifts in norm-setting competences or the application of existing law to new regulatory objects make the analysis of legal norms exigent and relevant. In addition, the research group also includes *technical norms*, i.e. the setting of standards in technical systems and processes, within its analysis horizon. With this three-dimensional concept of norms, the research group deals with the following areas of the networked society, among others: Entrepreneurial (self-)regulation, European legislative projects, transformation of the cultural goods industry, and automated and autonomized communication. All these are examples of processes in which the potential to regulate aspects of life and set norms is changing fundamentally as a result of digitalization.

The research group hosted four research fellows during the reporting period: (1) Pablo Schumacher (University of Basel, Switzerland) conducted research on whether trained AI systems could be protected under intellectual property law. (2) Hanjo Hamann (Max Planck Institute for Research on Collective Goods, Bonn) investigated the (digital) accessibility of court decisions. (3) Franz Hofmann (Friedrich-Alexander-Universität Erlangen-Nürnberg) reviewed the draft regulation for a Digital Service Act. (4) Sabine Gless (University of Basel, Switzerland) researched the extent to which data collected by autonomous vehicles is admissible as evidence in criminal proceedings.

The transfer activities of the research group included lectures on the legal problems related to digitalization and artificial intelligence, during which the findings of the research group were conveyed, as well as various networking and collaborative activities. The cooperation with the German Research Center for Artificial Intelligence (DFKI) deserves special mention. For example, as part of the Team Task Force ELLIAS Group of the DFKI, Ferdinand Müller presented the draft of the Artificial Intelligence Act in June 2021. The research group was also involved, together with the research group “Frameworks for Data Markets”, in the drafting of an expert assessment of the planned Data Act of the European Commission. Another highlight in the reporting period was the Weizenbaum Colloquium in December 2020, where research

fellows Pablo Schumacher and Hanjo Hamann publicly presented their research findings.

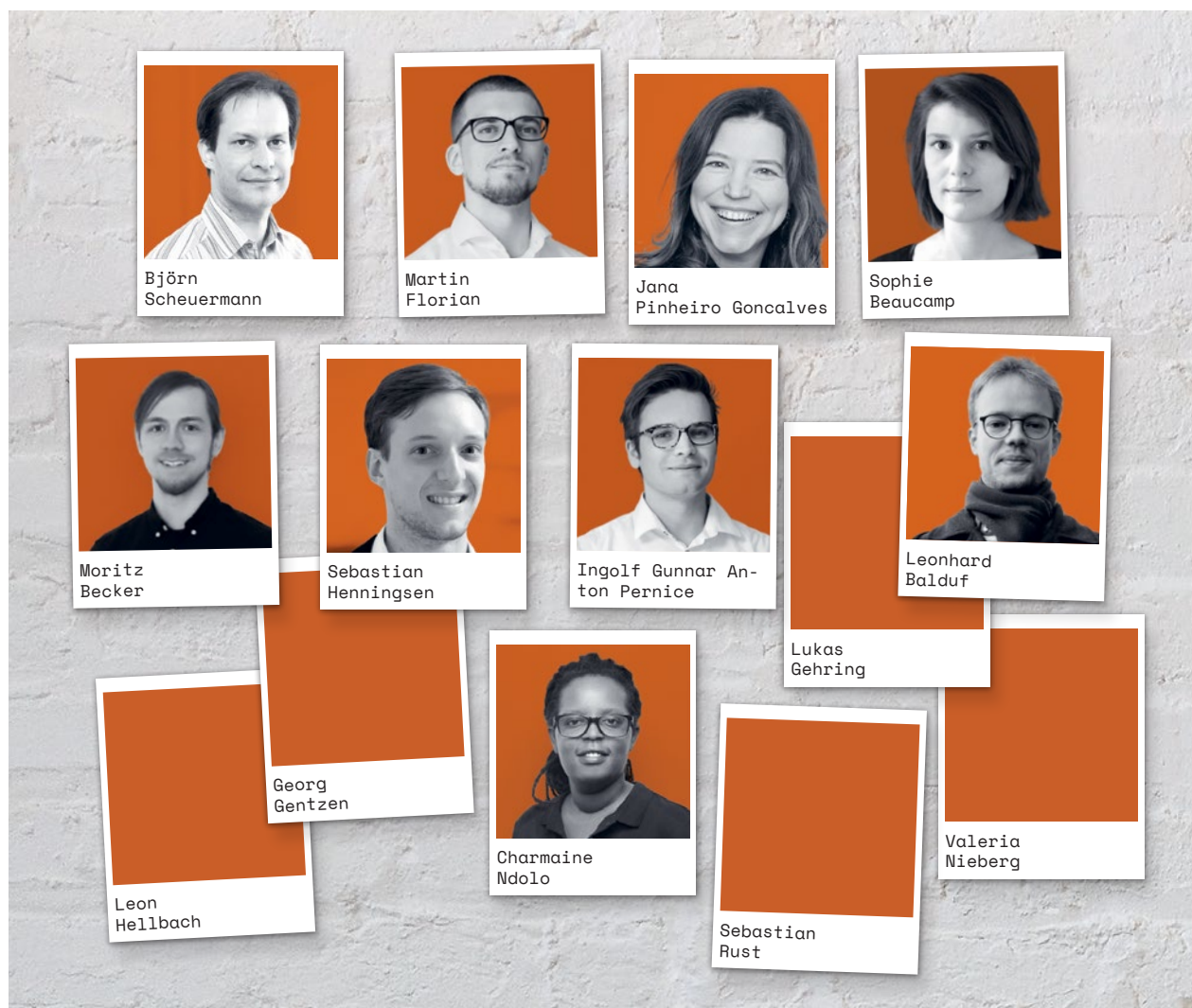
Even though the year under review was dominated by Corona, the group had to postpone its research residencies and planned visits from international guest researchers, and conferences and lectures were held digitally: The research group not only used the year to complete a whole series of publications – including a dissertation, a comprehensive report for the Association of German Jurists, an anthology, various journal articles, working papers, etc. – but also took stock of the research carried out in the initial founding phase and looked to the future.

Over the past years, a comprehensive picture has been painted of the effects that norm-setting has on the networked society, and it has been determined at which points established forms of regulation have reached their limits and need to be updated. In this context, one development stands out, which the research group would like to address more closely in the future: In a networked society, it is increasingly private decision-making structures which are regulating the actions of people – whether on a small scale, such as online games, or on a large scale, such as election advertising, artistic freedom and digital self-determination. In light of this, the research group asks questions about the legitimacy, institutionalization, and justification of such decision-making structures, thus bridging the gap between shifts in norm-setting and the validity claims of institutionalized decision-making procedures in the networked society.

In the future, this research focus will be developed further and discussed in an interdisciplinary exchange with other scholars. This will be realized, among other things, in the form of the conference “Verdikte, Verfahren, Verlagerungen” (Verdicts, Processes, Shifts). The conference could not take place during the reporting period due to the pandemic and has therefore been postponed to March 2022. It will discuss the legitimacy and consequences of private decision-making structures. The selected contributions consist of different disciplines (including law, sociology, cognitive science, communication, and science communication).

RESEARCH GROUP

"TRUST IN DISTRIBUTED ENVIRONMENTS"

MEMBERS OF THE
RESEARCH GROUP

Leonhard Balduf

Sophie Beaucamp

Moritz Becker

Dr.-Ing. Martin Florian
(Research Group Lead)

Lukas Gehring

Georg Gentzen

Leon Hellbach

Sebastian Henningsen

Charmaine Ndolo

Valeria Nieberg

Ingolf Gunnar Pernice

Jana Pinheiro Goncalves

Sebastian Rust

Prof. Dr. Björn Scheuermann
(PI)

The research group examines automated systems that are designed to limit opportunities for misconduct and manipulation, and thus reduce the need for “trust”. Emphasis is placed on distributed systems and blockchain technologies, such as those employed in cryptocurrencies or “decentralized autonomous organizations”. Such systems are transparent both in terms of how they operate and the data they store. As a result, they promise to eliminate intermediaries and trust anchors and promote bottom-up structures.

The research group investigates both the actual technical characteristics and possibilities of novel approaches, as well as their implications for existing social, legal, and (financial) economic contexts. Guiding questions include: What are the technical measures in question actually capable of? To what extent and in which contexts is their use at all desirable in terms of existing legal principles and established societal values?

Five complementary projects were developed to address the research questions:

Resilience and Decentralization of Technically Distributed Systems: The research group examines and evaluates various technical approaches to decentralization. The project identifies fundamental limits and regularities, and also conducts experiments and continuous empirical measurements in public production systems. Sebastian Henningsen has given several lectures, published papers, and wrote his dissertation (the process is still ongoing) on the content of the project during the reporting period.

Algorithmic Governance in Collective Decision-Making Processes: This research project at the intersection of organizational sociology and the sociology of technology investigates how the technical possibilities of blockchain technology change collective decision-making practices within software developer communities. Of particular interest here are the behavioral coordinating effects of the technology, as well as the normative guiding principles associated with the technology in current discourses. Within the last year, this has also included the compiling and analysis of an extensive qualitative database (interviews, observations) within this context.

Law Enforcement Through Technology: Algorithmic law enforcement raises fundamental questions beyond the specific technologies involved. The research group investigates the use of automated systems for law enforcement using the example of filtering technologies in copyright law, thereby developing transferable guidelines for dealing with automated law enforcement. Sophie Beaucamp also wrote a dissertation on this topic during the reporting period (the process is still ongoing).

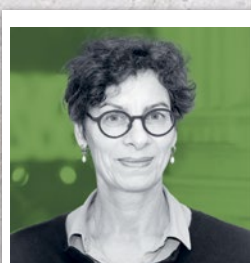
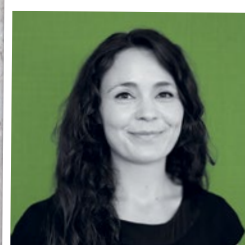
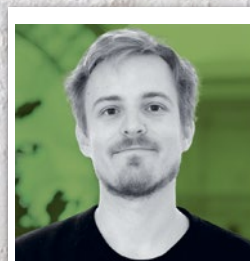
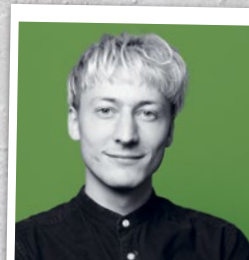
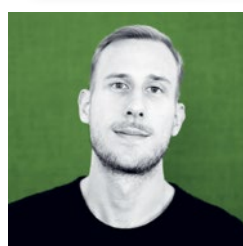
Price Instability in Digital, Decentralized Monetary Systems: Wider use of decentralized cryptocurrencies such as Bitcoin is also hindered in particular by their high volatility. The group is investigating the causes of volatility, ways to predict volatility, and approaches to price modeling and price stabilization. Cryptocurrencies have unique characteristics which offer novel opportunities to test existing economic models and theories. Based on a publication of the research group, a new sub-project on the further development of the quantity theory of money for speculative cryptocurrencies was also initiated within the reporting period.

Legal and Societal Challenges: The narrative surrounding blockchain and cryptocurrencies is characterized by disruption. Thus, numerous developments under this guise conflict with existing norms. One example here is the enabling of anonymous and unrestricted financial transactions, which raises fundamental questions about the relationship between freedom and security. The research group is working on various specific issues in this context, with a focus on transfer. During the reporting period, the research group participated in consultations on the topic of the “digital euro” and designed and conducted a first Weizenbaum roundtable discussion with representatives of federal politics on this very topic.

Other highlights from the reporting period include close collaboration with representatives of relevant developer communities, contributing to the anthology “Tipping Points” published in November 2020, participation in several institute-wide transfer activities such as the drafting of a position paper on the EU Data Governance Act, and several relevant publications and research collaborations.

RESEARCH GROUP

“QUANTIFICATION AND SOCIAL REGULATION”

Jeanette
HofmannLena
UlbrichtSonata
CepikFlorian
EyertFlorian
IrgmaierRainer
RehakOle
FechnerFlorian
KirstenJana
PannierDavid
PrinzMEMBERS OF THE
RESEARCH GROUP

Sonata Cepik

Florian Eyert

Ole Fechner

Prof. Dr. Jeanette Hofmann
(PI)

Florian Irgmaier

Florian Kirsten

Jana Pannier

David Prinz

Rainer Rehak

Dr. Lena Ulbricht
(Research Group Lead)

The research group's work pursues the guiding question of how regulation and governance are changing via the use of technologies such as Big Data, algorithmic decision-making systems, and AI. The group has used the reporting period primarily to work on qualification theses, conduct advanced research, present and publish findings, and expand their networking.

In her habilitation, Lena Ulbricht analyzes how the rule of the state is changing through algorithmic governance. Using a practically oriented concept of power and on the basis of empirical studies on algorithmic governance in the various state spheres of domination (executive, legislative, and judicial) as well as diverse fields of policy, she determines that the power of the state over citizens is changing and appears to be growing.

Florian Eyert's dissertation examines the role of computer modeling as political evidence, exploring the relationship between knowledge production and governance practices. He does so by conducting qualitative interviews, document and network analyses in the context of case studies and concludes that the modeling practices of simulation and AI experts have implications for processes of policymaking.

Florian Irgmaier's dissertation examines how the novel socio-technical knowledge produced in behavioral economics and by digital pattern recognition is reflected in recent policy proposals to reshape the relationship between the state and citizens, and uses qualitative content analysis to show that the assumptions of increased controllability of human behavior produced in these fields result in a post-liberal preference for extensive intervention rights of the state over the individual.

For his dissertation on the political implications of the (in)security of digital infrastructures, Rainer Rehak developed a conceptual framework that also incorporates the cybersecurity and data protection discourse, and with the help of which IT security measures can be evaluated systematically. The resulting perspective of "systemic IT security" makes it possible to do justice to the unique aspects of current infrastructures, which are permeated by networked, complex and hence vulnerable digital systems.

Advanced conceptual and empirical findings from the staff members' individual projects were presented at numerous conferences and events, including the 40th Congress of the German Sociological Association, the Remote Chaos Experience (rC3) of the Chaos Computer Club, and the conference of the Science, Technology and Society Unit (STS) of the Graz University of Technology in 2021.

The group has also worked and published on recent developments in the context of the Corona pandemic from the perspective of its research agenda. Of particular note is a privacy impact assessment on the German Corona tracing app, developed and published with the collaboration of Rainer Rehak, which has resulted in a series of follow-up publications. Lena Ulbricht conducted an international research project on the use of Corona apps in Latin America for population analysis and monitoring in the COVID-19 pandemic.

Due to the constraints imposed by the Corona pandemic, the group has primarily participated digitally in the hosting and organizing of academic events. Together with Paola Lopez (University of Vienna, Austria), Florian Eyert organized a panel for the 19th Annual STS Conference Graz in 2021. Lena Ulbricht organized a cross-sectional event at the DVPW Congress.

The research group contributed to the institute's development by participating in cross-sectional and reading formats. Lena Ulbricht initiated the working group on the design of the institute's internal diversity; Rainer Rehak participates in the working group on "Sustainability at the Weizenbaum Institute".

Collaborations and co-authorships outside the institute also took place, and national and international fellows were included in the group, including Paola Lopez (University of Vienna, Austria). In addition, Florian Eyert and Florian Irgmaier participated in the working group "Political theory of the digital constellation" of the Center for Advanced Internet Studies in Bochum (CAIS). Lena Ulbricht has served as an expert reviewer for CAIS and numerous scholarly journals.

A series of academic achievements have resulted from the fellowships with researchers from different disciplines. Two of them will be mentioned here: Simon Egbert is currently working on the project "Regulation and Deregulation of Digital Security Technologies in the Case of HessenData", the results of which will be published as a specialist article. Martin Kretschmer's fellowship will lead to the publication of an article in the newly founded Weizenbaum Journal of the Digital Society, which deals with the changes in copyright law due to digitalization.

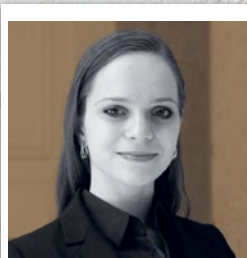
The members of the group have presented the findings of their joint research work to a broad public, including through lectures, online seminars, colloquium contributions, panel discussions, and expert reports for the German Bundestag. In addition, the staff members communicated their findings to a wide public through media contributions.

RESEARCH GROUP

“DIGITALISATION AND NETWORKED SECURITY”



Manfred
Hauswirth



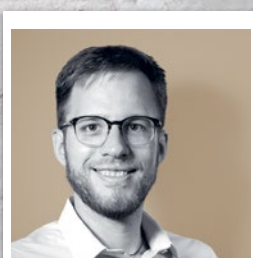
Tatiana
Ermakova



Richard
Huber



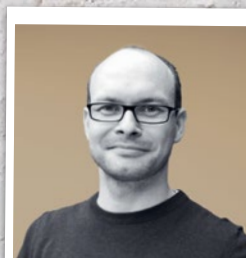
Selma
Lamprecht



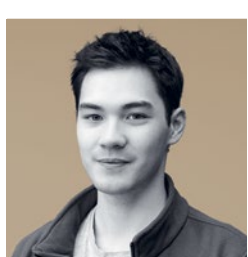
Otto Hans-Martin
Lutz



Pouyan
Fotouhi Tehrani



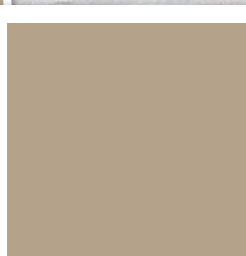
Jakob
Gerber



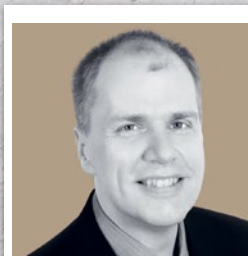
Jan Maria
Kopankiewicz



Arman
Pairavi



Manuel
Schneiderbauer



Benjamin
Fabian

MEMBERS OF THE
RESEARCH GROUP

Dr. Tatiana Ermakova
(Research Group Lead)

Pouyan Fotouhi Tehrani

Jakob Gerber

Prof. Dr. Manfred Hauswirth
(PI)

Richard Huber

Jan Maria Kopankiewicz

Selma Lamprecht

Otto Hans-Martin Lutz

Arman Pairavi

Manuel Schneiderbauer

ASSOCIATE
RESEARCHER

Prof. Dr. Benjamin Fabian

The research group examines functional security and IT security as part of digitalization and the associated networking of previously separate infrastructure systems. The focus here is on technological solutions as well as understanding the decision-making and thought patterns of actors. The research group's projects mainly focus on identifying needs and designing and developing technological solutions for citizens which satisfy these needs. Above all, the group combines a computer science perspective with a social science perspective. Conceptualizations and developments of technological solutions are supported by extensive literature analyses and empirical studies.

During the reporting period, the research group published its contributions in renowned journals and at prestigious conferences such as Scientific Reports (Nature), which is the seventh most cited journal worldwide, IEEE / ACM Transactions on Audio, Speech, and Language Processing, AISEL International Conference on Information Systems (ICIS), AISEL / IEEE Hawaii International Conference on System Sciences (HICSS), ACM International World Wide Web Conference (WWW), ACM Web Science Conference (WebSci), ACM Conference on Information-Centric Networking (ICN), and ACM International Conference on Audio Mostly (AM). The research group's ICIS paper was selected by the track chairs as the "Best Short Paper in Track".

The following offers a closer look at some of the research group's contributions:

Communication in Crisis and Disaster Scenarios: The internet consists of a variety of technologies that are designed, standardized, and implemented by different developer groups, organizations, and actors. Together with FU Berlin, the Hamburg University of Applied Sciences and George Mason University (USA), the research group investigated which non-technical aspects are relevant for the implementation of new technological approaches and used the example of secure web communication in crisis situations to show how different (at first glance irrelevant) technologies can be combined to achieve a common goal.

Privacy Sonification: Despite modern approaches such as two-factor authentication, password authentication is still the most commonly used method on the internet. Many users still choose weak passwords that are easy to guess. The graphical or textual feedback often provided on the strength of the chosen password is frequently insufficient. Working with TU Berlin and Bielefeld University, the research group introduced auditory feedback as a complementary method for indicating password strength. The conceptual space for this kind of feedback was mapped and four sonification designs were realized as web-based implementations, which are used to evaluate different features of the conceptual space.

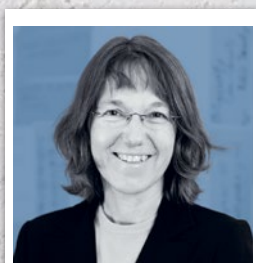
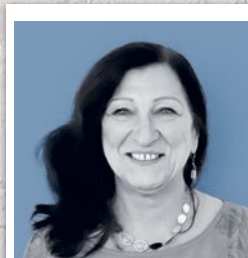
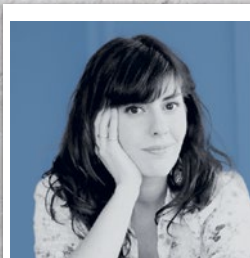
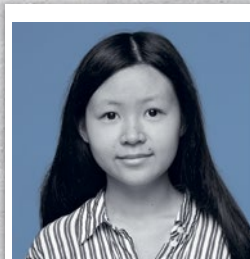
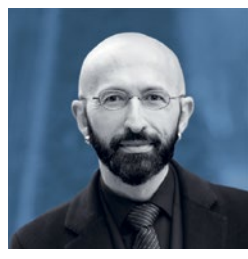
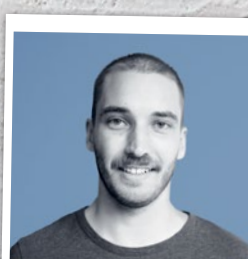
Critical Infrastructure Security: European Union member states consider themselves to be bulwarks of democracy and freedom of expression. The research group, together with HU Berlin, the University of Amsterdam, TU Berlin, University College London, Open Observatory of Network Interference (Italy) and the Technical University of Applied Sciences Wildau (TH Wildau), investigated possible violations of these principles in the EU through internet censorship. Based on this, network interference that disrupts the regular operation of internet services or content was investigated.

Transfer: The digitalization of healthcare holds numerous opportunities for improved healthcare. Together with the Central Research Institute of Ambulatory Health Care in Germany (Zi), the research group conducted an investigation into the extent to which citizens may also be at risk for other health problems based on a particular clinical picture and require corresponding health-related measures or recommendations. Regular screening for common comorbidities can lead to a better clinical progression and prognosis as well as an improvement in the patient's quality of life.

On April 1, 2021, Benjamin Fabian joined the research group as an associate researcher. Benjamin Fabian is a professor for e-government, IT security and IT management at TH Wildau, and a senior researcher for business informatics at HU Berlin. His research interests lie in the areas of information security, data science, ethics, and privacy with a special focus on the intersection of design science research with mathematical and empirical methods. Research topics that the group is working on together with Benjamin Fabian include ethical guidelines for AI and the empirical analysis of internet censorship.

RESEARCH GROUP

“CRITICALITY OF AI-BASED SYSTEMS”

Bettina
BerendtDiana
SerbanescuEvelyn
AdamsGunay
KazimzadeMilagros
MiceliMartin
SchüßlerTheofanis
Vassiliou-GiolesTianling
YangAntonio A.
CasilliPhilipp
WeißMEMBERS OF THE
RESEARCH GROUP

Evelyn Adams

Prof. Dr. Bettina Berendt (PI)

Gunay Kazimzade

Milagros Miceli

Martin Schüßler

Dr.-Ing. Diana Alina
Serbanescu (Research Group
Lead)

Theofanis Vassiliou-Gioles

Philipp Weiß

Tianling Yang

ASSOCIATE
RESEARCHER

Prof. Dr. Antonio A. Casilli

The mission of the research group is to identify the critical aspects of emerging AI-based systems. In the second funding period, four complementary projects have been advanced to achieve a common goal: the development of guidelines for the responsible, reliable, and human-centric design of AI-based systems.

These four projects are:

Analysis of the Causes of Bias and Systematic Discrimination in AI-Based Systems: Human annotators unconsciously introduce biases and prejudices into datasets, and consequently also into the systems that are trained using this data. Gunay Kazimzade focuses on the methodological analysis of cognitive biases in the annotation of human images, as there is currently a significant gap in terms of standards or practical tools for developing annotation tasks that account for biases.

Power and Domination in the Production of Machine Learning Datasets: Maria de los Milagros Miceli examines power imbalances, organizational structures, and labor practices involved in the production of training datasets for machine learning.

The Benefits of Explainable AI for End Users: This project explores the specific explainability and understandability requirements that AI-based systems need to satisfy in order to be reliable and trustworthy for users. A method was developed iteratively to evaluate automated explanation techniques in user studies and to quantify their impact on user understanding. In addition to an initial published study that has now been cited 50 times, another study is currently under review at a high-level machine learning conference.

The Shape of Things to Come: Combining AI with the performing arts, this project looks at democratic and participatory practices for shaping sustainable future technologies. It draws on the concepts of embodiment, collective co-creation, and dialogical collaboration between diverse communities, fostering knowledge transfer and hands-on experimentation.

The research group features an interdisciplinary composition. Its members have backgrounds in computer science, the social sciences, human-machine interaction, and the natural and cultural sciences. Their goal is to integrate a hands-on approach into their research to combine engineering approaches with critical reflection. The group applies both qualitative and quantitative research methods to reflect on the multidimensionality of AI-based systems as socio-technological constructs. It engages in knowledge transfer as part of its strategy, and creates formats for dialog and the exchange of information with the wider public. These include thematic workshops, open labs, panel discussions, and artistic performances tailored to research questions.

The group's research has been published in various journals and presented at prestigious conferences such as the Conference on Computer Supported Cooperative Work and Social Computing (CSCW) and the ACM Conference on Fairness, Accountability, and Transparency (FAccT).

The research group is well-connected internationally. It hosted a number of international fellows and multiple research collaborations were established. The following fellows were hosted during the reporting period: Laurens Naudts, PhD student at Katholieke Universiteit Leuven (Belgium), whose research focuses on algorithmic justice. Julian Posada, PhD student at the University of Toronto (Canada), is studying the social reproduction and personal networks of outsourced platform workers who contribute to the development of machine learning algorithms. The fellowships have helped strengthen the group's collaborations with international research institutions and also frequently resulted in joint publications which were presented at prestigious conferences.

During the reporting period, the research group continued to develop transdisciplinary, hands-on research formats, such as the project "The Shape of Things to Come" headed by research group leader Diana Serbanescu. This externally funded project addressed aspects of AI design and brought together aspects of AI ethics with critical manufacturing practices and performance theories and techniques. In 2020, Serbanescu developed a feminist dance theater piece entitled "Dancing at the Edge of the World" as a result of a research project with hands-on leadership, which was realized with support from Berlin Open Lab and Hybrid Platform.

Another of the group's projects deals with improved video communication via the use of AI. In cooperation with Visual Learning Lab Heidelberg, Martin Schüßler is heading user studies as part of a researcher-in-residence program that investigates how non-verbal communication can be better conveyed in video conferences with the help of AI. In particular, the impact of gaze direction and head rotation on virtual conversations is being examined.

4.5 Cross-sectional formats

The work of our 21 research groups is complemented by thematic groups of a cross-sectional nature. These cross-sectional formats pursue two main goals: Firstly, they bring together research findings so they can be used to address overarching ethical and policy issues. The aim here is to provide expertise for shaping major aspects with regard to the relationship between society and digital technology. Secondly, they also serve to provide space for the pursuit of innovative and risky ideas and impulses which are relevant for the further development of the Weizenbaum Institute's research agenda. Accordingly, the cross-sectional formats are a living instrument. Hence, the issues they address as well as their number are adapted to the development of the Weizenbaum Institute.

AUTONOMOUS SYSTEMS & SELF-DETERMINATION

The cross-sectional format deals with the question of how the increasing use of autonomous or semi-autonomous information technology systems affects possibilities for individual and collective self-determination. While the main focus in the initial founding phase of the institute was on the interdisciplinary understanding of the concept of autonomy, the collection of relevant practical examples and the organization of a series of talks with numerous experts from various disciplines, the second phase consolidated the findings obtained and formulated them for transfer to a wider public.

Originally, a second iteration of the series of talks, which was set to take place last year but had to be discontinued due to the pandemic, was to be resumed. However, events were also not possible for an extended time during the last reporting period. A central product of the second phase was the creation of a website⁵ which systematizes the results of the series of talks and bundles them in an overview with further material, including papers, presentations, recordings of talks, and a number of independently recorded podcast interviews with invited experts. In addition, a documentary overview of publications by the institute's members in the fields of autonomous systems and self-determination has also been made available on the website.

SECURITY & TRANSPARENCY

In this cross-sectional format, our scholars engage in exchange and collaborative research on topics that touch on the complex relationship between security and openness. The core research issues are: What dimensions of security and openness are there, and which related concepts can be found in various research disciplines? What new perspectives arise for shaping digital societies if openness and security are to be reconciled?

In the past, several lectures and discussion panels were organized on this topic. These were initially held on site at the Weizenbaum Institute and then, during the Corona pandemic, increasingly as video conferences. In the current reporting period, the interdisciplinary exchange of research was further advanced.

⁵ Additional material on the cross-sectional area of "Autonomous Systems & Self-Determination" is available at: <https://www.weizenbaum-institut.de/en/research/cross-section-formats/autonomous-systems-self-determination/lecture-series-assd/>

DIGITALIZATION & SUSTAINABILITY

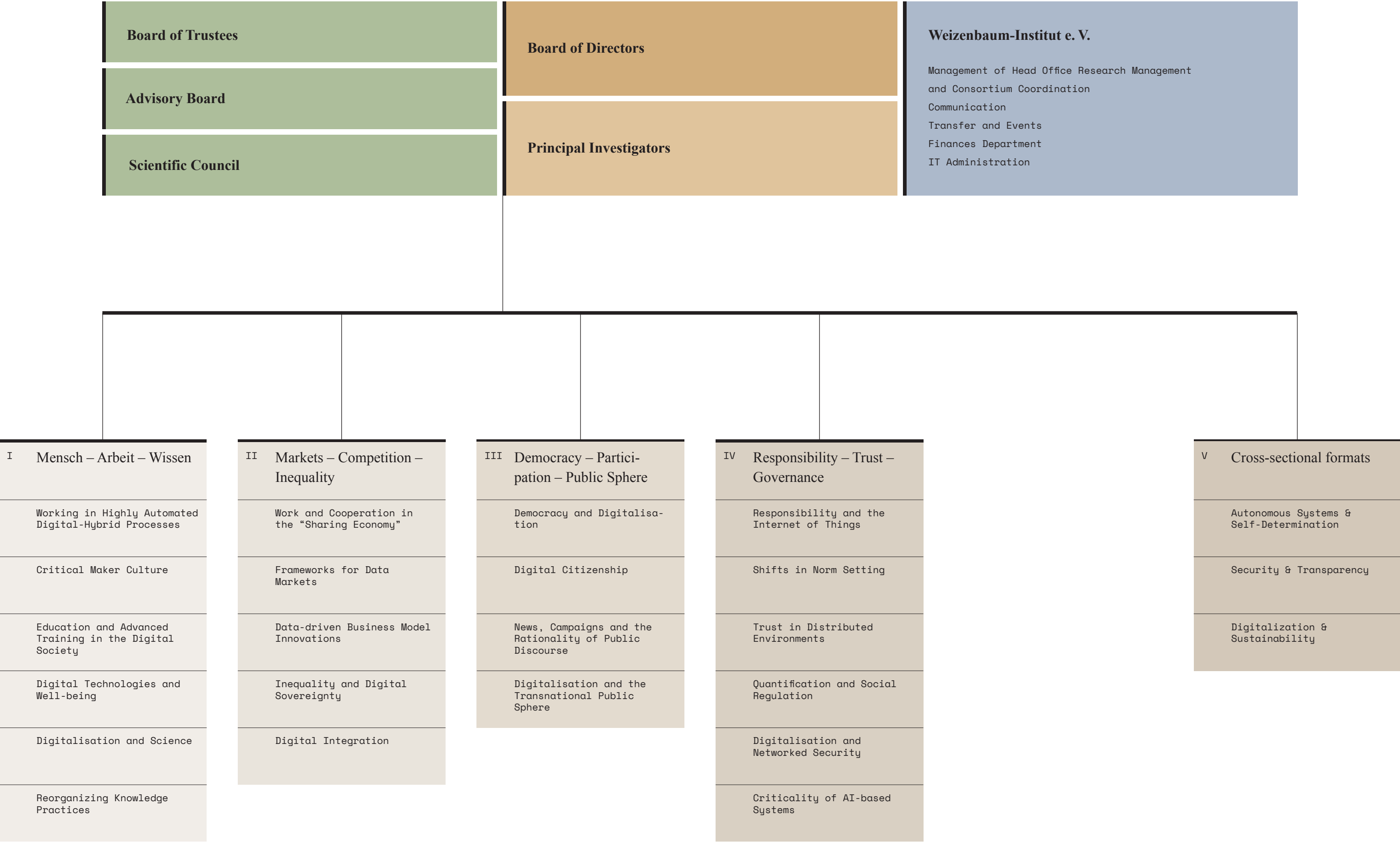
This cross-sectional format will accompany the transformation towards a sustainable networked society. The transformation processes observed include the sustainable digitalization of energy grids, mobility and education, but also substitution effects in working environments of the future. The participating research groups are dedicated to the overarching question of how information and communication technology systems (ICT) positively or negatively impact the achievement of the UN Sustainable Development Goals of Agenda 2030.

In addition to the participation of researchers of the format in symposia, the participating research groups are jointly developing the knowledge and workshop tool “Weizenbaum Knowledge Hypercube”. The Hypercube is a framework for supporting, visualizing and preserving the results of interdisciplinary workshops. At the heart of the Hypercube is the development of a topic-focused mind map by the session participants. Ideas and stimuli from the participants are recorded in the form of core concepts and juxtaposed, discussed, prioritized and documented.

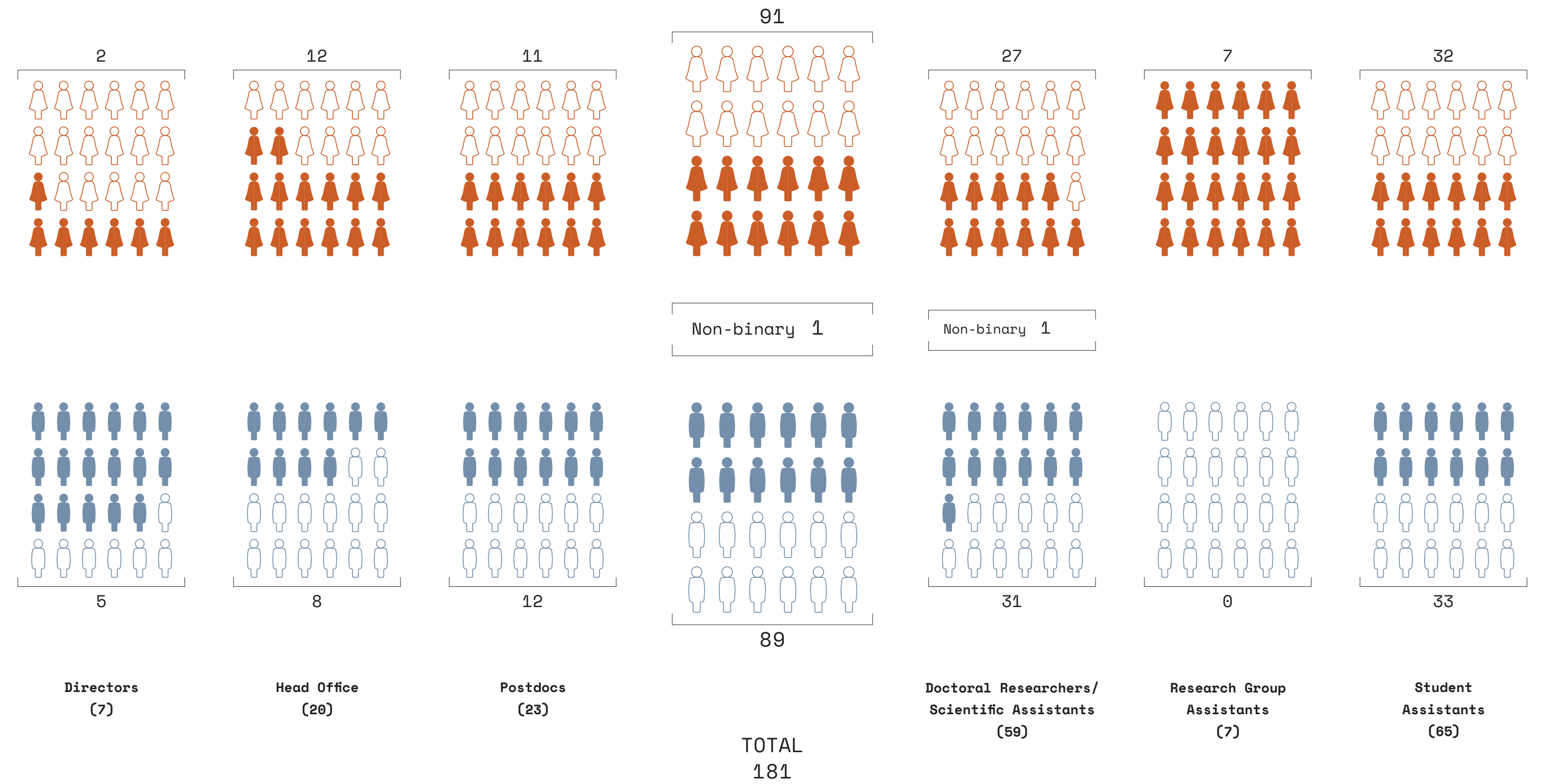
An updated prototype of the Hypercube was developed together with external partners and published under an open source license. In addition, the project was documented in a podcast in the “Voices for the Networked Society” series.

V. Directors, the Association, and Committees

5.1 Organization chart of the Weizenbaum Institute



5.2 People at the Weizenbaum Institute



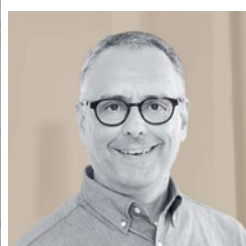
Shown here are employees of the institute financed with BMBF funds of the joint research project "Weizenbaum Institute for the Networked Society - The German Internet Institute" (As of: August 1, 2021)

5.3 Scientific management

The scientific management of the Weizenbaum Institute consists of the directors and the principal investigators (PIs).



Bettina
Berendt



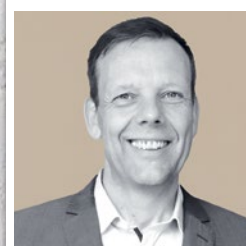
Martin
Emmer



Anja
Feldmann



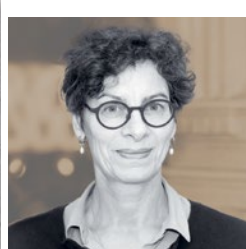
Sascha
Friesike



Norbert
Gronau



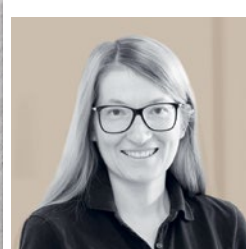
Manfred
Hauswirth



Jeanette
Hofmann



Gesche
Joost



Hanna
Krasnova



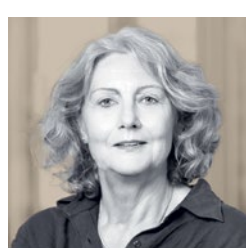
Martin
Krzywdzinski



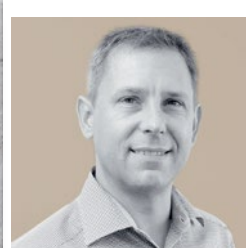
Axel
Metzger



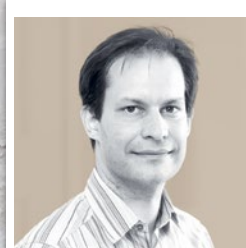
Christoph
Neuberger



Barbara
Pfetsch



Niels
Pinkwart



Björn
Scheuermann



Thomas
Schildhauer



Herbert
Zech

BOARD OF DIRECTORS

The Board of Directors of the Weizenbaum Institute for the Networked Society consists of the five W3 professorships at the participating universities and one representative each of the WZB and Fraunhofer FOKUS. With its seven members, the Board of Directors is in charge of the scientific and strategic coordination of the joint project.

In the current phase, the Board of Directors together with the Head Office is responsible, among other things, for the coordination of the institute's research groups and projects. Working with the PIs, it develops concepts for strategic further development. The establishment and dissolution of research groups, including the appointment and dismissal of PIs, also falls under the purview of the Board of Directors.

The directors are also PIs at the Weizenbaum Institute and responsible for the academic work of research groups.

During the reporting period, the members of the Board of Directors were: Managing Director Prof. Dr. Christoph Neuberger (FU Berlin), his Deputy Managing Director Prof. Dr. Sascha Friesike (UdK Berlin), Prof. Dr. Herbert Zech (HU Berlin – until 02/28/2021) and Prof. Dr. Martin Krzywdzinski (WZB – from 03/01/2021) and Directors Prof. Dr. Bettina Berendt (TU Berlin), Prof. Dr. Manfred Hauswirth (Fraunhofer FOKUS) and Prof. Dr. Hanna Krasnova (Uni Potsdam).

PRINCIPAL
INVESTIGATORS
(PIs)

PIs are professors of the respective consortium partners and the researchers of the institute who bear the main responsibility for the research groups. The PIs ensure the coherence and further development of the research program as well as the scientific excellence and thematic range of the institute's research. They determine the scientific and strategic orientation of their research groups and promote collaboration with other research groups. They encourage the establishment or dissolution of research groups, cross-sectional formats, and projects, and develop guidelines for work in the research groups. They advise the Board of Directors on the preparation of concepts for the strategic development of the institute.

The following PIs were active at the institute during the reporting period: Prof. Dr. Bettina Berendt (TU Berlin), Prof. Dr. Martin Emmer (FU Berlin), Prof. Anja Feldmann, Ph.D. (TU Berlin), Prof. Dr. Sascha Friesike (UdK Berlin), Prof. Dr.-Ing. Norbert Gronau (Uni Potsdam), Prof. Dr. Manfred Hauswirth (TU Berlin/Fraunhofer FOKUS), Prof. Dr. Jeanette Hofmann (WZB), Prof. Dr. Gesche Joost (UdK Berlin), Prof. Dr. Hanna Krasnova (Uni Potsdam), Prof. Dr. Martin Krzywdzinski (WZB), Prof. Dr. Axel Metzger, LL.M. (Harvard) (HU Berlin), Prof. Dr. Christoph Neuberger (FU Berlin), Prof. Dr. Barbara Pfetsch (FU Berlin), Prof. Dr. Niels Pinkwart (HU Berlin), Prof. Dr. Björn Scheuermann (HU Berlin), Prof. Dr. Dr. Thomas Schildhauer (UdK Berlin) and Prof. Dr. Herbert Zech (HU Berlin).

5.4 Weizenbaum-Institut e. V.

Weizenbaum-Institut e.V. is the responsible body for the Head Office and coordinator of the joint research project “The Weizenbaum Institute for the Networked Society – The German Internet Institute”. The association is responsible for the central administration and legal representation of the institute. It coordinates the scientific consortium and is responsible for public relations, knowledge transfer in politics, business and civil society, the internationalization of the institute, and the promotion of new talent.

The members of Weizenbaum-Institut e. V. are the seven consortium partners of the joint research project: FU Berlin, HU Berlin, TU Berlin, UdK Berlin, Uni Potsdam, Fraunhofer-Gesellschaft, and WZB.

Represented on the association's Board of Trustees are:

- Two members delegated by the Federal Republic of Germany
- One member delegated by the State of Berlin
- The presidents of the institutional and voting members (or their representatives).

The general assembly and the meeting of the Board of Trustees of the association took place on April 19, 2021.

DURING THE REPORTING PERIOD, THE MANAGING BOARD OF WEIZENBAUM-INSTITUT E. V. CONSISTED OF:

Dr. Karin-Irene Eiermann (Administrative Managing Director and Head of Administration at the Weizenbaum Institute), full-time member of the Managing Board

Prof. Dr. Christoph Neuberger (Managing Director of the Weizenbaum Institute, FU Berlin)

Prof. Dr. Sascha Friesike (Deputy Managing Director of the Weizenbaum Institute, UdK Berlin)

Prof. Dr. Herbert Zech (Deputy Managing Director of the Weizenbaum Institute until February 28, 2021, HU Berlin) (until April 19, 2021)

Prof. Dr. Martin Krzywdzinski (Deputy Managing Director of the Weizenbaum Institute from March 1, 2021, WZB) (since April 19, 2021)

The Managing Board is responsible, among other things, for the further development of the institute's strategy in cooperation with the Board of Directors and the other committees of the Weizenbaum Institute. It also oversees the institute's development and implementation of consolidation concepts in cooperation with the Board of Directors and the other bodies of the institute. Other responsibilities include the external representation of the institute, leading the coordination of the cooperation within the Weizenbaum research network, as well as informing and reporting to the members and Board of Trustees of Weizenbaum-Institut e. V.

Organization chart of the Weizenbaum Institute

Scientific Directors

Prof. Dr. Christoph Neuberger
Prof. Dr. Martin Krzywdzinski
Prof. Dr. Sascha Friesike

Administrative Managing Director

Dr. Karin-Irene Eiermann

Assistant of the Administrative Managing Director
Maite Vöhl

Advisor to the Managing
Travis Penner

Human Resources Administrator
Sabine Zimmermann

Research Management and Network Coordination

Department Head
Claudia Oellers

Network Coordination
Dr. Julian Vuorimäki

Student Assistant
Kiyan Farmand

Communication

Department Head
Filip Stiglmayer

Scientific Officer – Publications
Roland Toth

Assistant – Media and Public Relations
Katharina Stefes

Student Assistant
Julia Rodriguez

Transfer and Events

Department Head
Johanna Hampf

Political Communications
N.N.

Graphic Designer
Karen Fischäder

Student Assistant
Leonie Schipke

Finance Department

Department Head
Gabriela Baumann

Administrative Assistant Third-party Funding
Xiao Zhu

Administrative Assistant, Procurement
Tuna Güleser

Financial Accountant
Manuela Perleberg

IT-Administration

Head of IT
Thoralf Schulze

IT Administrator
Patrick Kuna



Karin-Irene
Eiermann



Maite
Vöhl



Travis
Penner



Sabine
Zimmermann



Claudia
Oellers



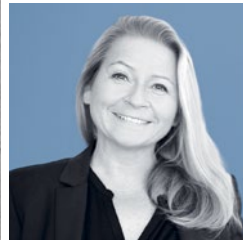
Julian
Vuorimäki



Kiyan
Farmand



Filip
Stiglmaier



Katharina
Stefes



Roland
Toth



Julia Adelaida
Rodriguez



Johanna
Hampf



Karen
Fischäder



Leonie
Schipke



Gabriela
Baumann



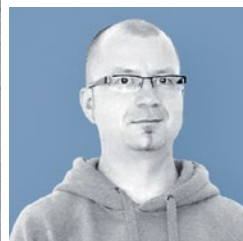
Xiao
Zhu



Zeynep Tuna
Güleser



Manuela
Perleberg



Thoralf
Schulze



Patrick
Kuna

ADMINISTRATIVE BOARD AND
HEAD OFFICE MANAGEMENT

Dr. Karin-Irene Eiermann is the full-time Administrative Managing Director of Weizenbaum-Institut e. V. and Head of Administration at the Weizenbaum Institute. She is responsible for the management of the Weizenbaum Institute in all administrative and technical matters in cooperation with the Scientific Managing Directors, for the administrative and financial management of Weizenbaum-Institut e. V. and the establishment of sustainable management structures, for human resources planning, recruiting and management of the administrative staff of Weizenbaum-Institut e. V., for the organization of the infrastructure and operation of the institute's headquarters at Hardenbergstr. 32, for the coordination of occupational health and safety matters at the institute's premises, as well as the coordination of questions of legal co-determination on the part of the institute's management.

**Administrative Managing Director,
Head of Administration**
Dr. Karin-Irene Eiermann

**Assistant of the
Administrative Managing Director**
Maite Vöhl

Advisor to the Managing Board
Travis Penner

Human Resources Administrator
Sabine Zimmermann

RESEARCH MANAGEMENT
AND CONSORTIUM COORDINATION

The research management and consortium coordination department is responsible for the following areas: Quality management, coordination of the further development of the research agenda and its interdisciplinarity, internationalization, networking in the science field, promotion of new talent and career support, research data management and Open Science, and committee work.

**Head of Research Management /
Consortium Coordination**
Claudia Oellers

Consortium Coordination
Julian Vuorimäki

Student Assistant
Kiyon Farmand

COMMUNICATION

The communications department is responsible for all aspects related to external and internal communications. This includes strategic and conceptual communication processes, science communication with press and public relations, the Weizenbaum Institute's website, the institute's own publications and publication series, and corporate design.

Head of Communications

Filip Stiglmayer

Scientific Officer – Publications

Roland Toth

Assistant – Media and

Public Relations

Katharina Stefes

Student Assistant

Julia Rodriguez

TRANSFER AND EVENTS

The Transfer and Events Department is responsible for all intra-consortium events and transfer activities. It designs and organizes the corresponding measures within the framework of the transfer strategy. It also advises individual research groups on their event and transfer projects and provides support in organizing and implementing them. Furthermore, it assists the institute's consortium partners and coordinates and develops cross-consortium collaborations.

Head of Transfer

and Events

Johanna Hampf

Political Communications

N.N.

Graphic Designer

Karen Fischäder

Student Assistant

Leonie Schipke

FINANCE DEPARTMENT

The Finance department is responsible for day-to-day accounting, cost and performance accounting, purchasing, procurement and commercial processing, as well as the management of grants and financial reporting.

- Head of Finance
Gabriela Baumann
- Administrative Assistant
Third-party Funding
Xiao Zhu
- Administrative Assistant,
Procurement
Tuna Güleser
- Financial Accountant
Manuela Perleberg

IT ADMINISTRATION

The IT department of the Weizenbaum Institute provides the staff of Weizenbaum-Institut e. V. and the researchers with a powerful and modern IT environment. In addition to the maintenance and continuous development of the existing infrastructure, the department's services also include adequate support and the coordination of external service providers.

- Head of IT
Thoralf Schulze
- IT System Administrator
Patrick Kuna

5.5 Committees

Three committees assist with the work of the Weizenbaum Institute at various levels. Their establishment and duties are defined in the institute's bylaws.

BOARD OF TRUSTEES

The Board of Trustees of the joint research project advises the Board of Directors on the strategic direction of the institute and its organization. It is composed of the presidents of the consortium partners or their representatives, two representatives of the BMBF, and one representative of the State of Berlin. The chair of the Board of Trustees and the deputy chair are appointed by the BMBF. During the reporting period, the Board of Trustees met on February 15, 2021, on April 19, 2021, and on August 9, 2021.

MEMBERS:

MinDir Matthias Graf von Kielmansegg, Head of Office 1: "Strategies and Policy Issues; Coordination", Federal Ministry of Education and Research

MinR'in Esther Seng, Head of Division 400 "Fundamental Issues, Digitalization and Transfer" in Subdivision 4, "Higher Education and Science System", Federal Ministry of Education and Research

Prof. Dr.-Ing. Reimund Neugebauer, President, Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.

Prof. Dr. Günter M. Ziegler, President, Freie Universität Berlin

Prof. Dr.-Ing. Dr. Sabine Kunst, President, Humboldt-Universität zu Berlin

Steffen Krach, State Secretary for Science and Research to the Governing Mayor of Berlin, Senate Chancellery

Prof. Dr. Christian Thomsen, President, Technische Universität Berlin

Prof. Dr. Norbert Palz, President, Berlin University of the Arts (UdK)

Prof. Oliver Günther, Ph.D., President, University of Potsdam

Prof. Dr. h.c. Jutta Allmendinger, Ph.D., President, Wissenschaftszentrum Berlin für Sozialforschung gGmbH

ADVISORY BOARD

The Advisory Board advises the Board of Directors and the Head Office on the development and implementation of the institute's strategic orientation, its transfer formats, its work with consortium partners, and its external presentation. The Advisory Board is made up of ten academic members and four representatives from civil society, politics, business, and the media. During the reporting period, the Advisory Board met on November 2, 2020 and on March 23, 2021. According to its bylaws, the Advisory Board meets at least once annually.

MEMBERS:

Prof. Dr. Christoph Bieber, Institute for Political Science, University of Duisburg-Essen/Scientific Coordinator, Center for Advanced Internet Studies (CAIS)

Prof. Dr. Johannes Buchmann, formerly from the Computer Science Department, head of CDC – Theoretical Computer Science – Cryptography and Computer Algebra, Technical University of Darmstadt

Prof. Dr. Peter Buxmann, Department of Law and Economics, Chair of Information Systems /Software & Digital Business, Technical University of Darmstadt

Prof. Dr. Christiane Eilders, Chair of Communication and Media Studies, Heinrich Heine University Düsseldorf (Chairperson)

Prof. Dr. Konrad Förstner, Head of the program area "Provision of Information Services" at the ZB MED – Life Sciences Information Centre, Technical University of Cologne

Prof. em. Dr. Dr. h.c. mult. Martin Grötschel, former president of the Berlin-Brandenburg Academy of Sciences and Humanities

Elvan Korkmaz-Emre, Member of the German Bundestag, member of the Study Commission "Artificial Intelligence"

Prof. Dr. Sabine Pfeiffer, Chair of Sociology (Technology – Work – Society), Friedrich-Alexander-University Erlangen-Nürnberg

Stefan Sauer, Member of the German Bundestag, deputy chairman of the Study Commission "Artificial Intelligence"

Joanna Schmölz, digital strategist, Senate Chancellery Free and Hanseatic City of Hamburg

Prof. Dr. Indra Spiecker called Döhmman, LL.M. (Georgetown), Chair of Public Law, Information Law, Environmental Law, Administrative Science, Goethe University Frankfurt am Main

Harald Summa, Managing Director of eco – Verband der Internetwirtschaft e.V.

Dr. phil. Stephan Weichert, Hamburg Media School gGmbH

Prof. Dr.-Ing. Thomas Wiegand, Head of the Fraunhofer Heinrich Hertz Institute

SCIENTIFIC COUNCIL

The Scientific Council advises the Board of Directors and the Head Office on all essential matters of the institute, in particular on questions of strategic and scientific priorities and the design of formats for scientific work and transfer formats. The Scientific Council is made up of one PI per consortium partner and two representatives each of the Research Group Leads, the academic staff, the student assistants, and the administrative and technical staff. Managing Director Prof. Dr. Christoph Neuberger, his Deputy Managing Directors Prof. Dr. Martin Krzywdzinski and Prof. Dr. Sascha Friesike, as well as the Administrative Managing Director Dr. Karin-Irene Eiermann participate in the meetings in an advisory capacity. During the reporting period, the Scientific Council met on January 21, 2021, on April 22, 2021, and on June 24, 2021.

MEMBERS:

Principal Investigators

Prof. Anja Feldmann, Ph.D. (TU Berlin)

Prof. Dr. Manfred Hauswirth (Fraunhofer FOKUS)

Prof. Dr. Jeanette Hofmann (WZB)

Prof. Dr. Hanna Krasnova (Uni Potsdam)

Prof. Dr. Barbara Pfetsch (FU Berlin)

Prof. Dr. Niels Pinkwart (HU Berlin)

Prof. Dr. Dr. Thomas Schildhauer (UdK Berlin)

Research Group Leads

Dr. Annett Heft (FU Berlin)

Dr. Gergana Vladova (Uni Potsdam)

Doctoral Researchers

Andrea Hamm (TU Berlin)

Philipp von Becker (UdK Berlin)

Student Assistants

N.N.

Administrative and Technical Staff

Patrick Kuna (Weizenbaum-Institut e.V.)

Sonata Cepik (WZB)

VI.

Facts

and

Figures

6.1 Publications, lectures, and teaching

THE PUBLICATIONS, LECTURES, AND TEACHING EVENTS
FROM THE REPORTING PERIOD CAN BE ACCESSED USING THE
FOLLOWING

LINK:

[HTTPS://WWW.WEIZENBAUM-INSTITUT.DE/JB2021](https://www.weizenbaum-institut.de/jb2021)



6.2 Memberships, positions, and functions

PROF. DR. BETTINA BERENDT

Professor and Head of the Department Internet and Society at the Faculty IV Electrical Engineering and Computer Science of the Technical University Berlin

Member of the Institute for Telecommunication Systems

Visiting professor in the Declarative Languages and Artificial Intelligence Group of the Department of Computer Science of the KU Leuven, Belgium

PROF. DR. MARTIN EMMER

Professor at Freie Universität Berlin, Department of Political and Social Sciences, Centre for Media Usage

Principal Investigator at Einstein Center Digital Future

Chair of the Doctoral Committee for Media and Communication Studies at the Department of Political and Social Sciences at Freie Universität Berlin

Founding Editor, “Weizenbaum Journal for the Digital Society”

Coordinator for the cross-university degree courses for “Digital Media and Technology” (BSc, MSc) at Freie Universität Berlin

Member of various academic organizations (ICA, ECREA, DGPK)

PROF. ANJA FELDMANN, PH.D.

Director at the Max Planck Institute for Informatics

Member of the Leopoldina – National Academy of Sciences

Member of the National Academy of Science and Engineering (acatech)

Member of the Berlin-Brandenburg Academy of Sciences and Humanities

Member of Academia Europaea

Member of the Supervisory Board at Karlsruhe Institute of Technology (KIT)

Member of the interdisciplinary working group “Responsibility in the digital age”

Member of the Committee for Communication and Information of the German Commission for UNESCO

Member of the scientific advisory board, Leibniz Centre for Research in Computer Science of the Leibniz Association

Member of the Executive Committee at eco – Verband der Internetwirtschaft e. V.

Member of the Board of Trustees of Gemeinnützige Gesellschaft zur Förderung des Forschungstransfers e. V.

Principal Investigator at the Berlin Big Data Center

Member of the Review Board “Operating, Communication, Database and Distributed Systems” at Deutsche Forschungsgemeinschaft e. V.

Member of the Excellence Council of the University of Hamburg

Member of the Advisory Board of the S20 Commission (Advisory Board of the G20 countries)

Member of Academia Europaea

Member of the Perspektivenkommission (Perspective Commission) and the IT Commission, Max-Planck-Gesellschaft

Spokesperson and deputy chair of IMPRS Trust, Max-Planck-Gesellschaft

Member of Dioscuri – Centre of Excellence, Max-Planck-Gesellschaft

PROF. DR. SASCHA FRIESIKE

Professor for Designing Digital Innovation at the Berlin University of the Arts (UdK)

Head of the Leadership in Digital Innovation degree program at the University of the Arts Berlin

Affiliate Professor at the KIN Center for Digital Innovation of Vrije Universiteit Amsterdam

Associate researcher at the Alexander von Humboldt Institute for Internet and Society

Delegated representative of the German Research Foundation (DFG) in the working group Science Practice of the Allianz-Initiative Digital Information

PROF. DR.-ING. NORBERT GRONAU

Professor at the University of Potsdam, Chair of Business informatics, processes and systems

Member of the Executive Board of the Wissenschaftliche Gesellschaft für Arbeits- und Betriebsorganisation e.V.

Spokesperson of the Board of the Institut für Wirtschaftsinformatik und Digitale Gesellschaft e. V.

Member of the National Academy of Science and Engineering (acatech)

Member of the Board of Trustees of the Heinz-Nixdorf Institute

PROF. DR. MANFRED HAUSWIRTH

Director of the Fraunhofer Institute for Open Communication Systems (FOKUS)

Professor at the Technische Universität Berlin, Department of Open Distributed Systems

Principal Investigator at the Berlin Big Data Center

Principle Investigator, Berlin Institute for the Foundations of Learning and Data (BIFOLD)

Principal Investigator at Einstein Center Digital Future

Member of the scientific steering committee of the Daimler Center for Automotive Information Technology and Innovations

Member of the scientific council of CONNECT, Ireland’s National Research Centre for Future Networks and Communications

Senior Member of the Association for Computing Machinery

Member of Gesellschaft für Informatik e.V.

Senior Member of the Institute of Electrical and Electronics Engineers (IEEE)

Member of the IEEE Computer Society Conference Advisory Committee

Principal Investigator at the Helmholtz Einstein International Berlin Research School in Data Science

Member of the Digital Economy Industry Committee of the Berlin Chamber of Industry and Commerce

Specialist committee, Salzburg Research

Executive Committee of the Institute for Computer Science at the University of St. Gallen

Advisory Board of the Center for Advanced Internet Studies

PROF. DR. JEANETTE HOFMANN

Professor for Internet Policy at Freien Universität Berlin

Honorary Professor for Internet Policy at the Central Institute for Continuing Education at the Berlin University of the Arts

Head of the research group "Politics of Digitalization" at the Berlin Social Science Center (WZB)

Director and founding member of the Alexander von Humboldt Institute for Internet and Society (HIIG)

Associate Researcher at the London School of Economics and Social Sciences (LSE)

Advisory Board Member at the Center for Interdisciplinary Risk and Innovation Studies (ZIRIUS), University of Stuttgart

Member / Advisory Committee on Digitalization and Sustainability, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Member of the standing committee "Digital Society" of the Leopoldina – National Academy of Sciences

Member of the German steering committee Internet Governance Forum

Member of the Managing Board, Internet Policy Review (Journal)

Member of the Editorial Board, Information, Communication & Society (Journal)

Member of the Editorial Board, Critical Policy Studies (Journal)

PROF. DR. GESCHE JOOST

Professor at the Berlin University of the Arts (UdK)

Board member, Einstein Center Digital Future

Scientific Director for Interactive Textiles, German

Research Center for Artificial Intelligence (DFKI) Berlin

Supervisory Board member SAP

Supervisory Board member Ottobock

Supervisory Board member SAP

Member of the Board of the Studienstiftung des deutschen Volkes

Member of Goethe-Institut

Member of the Zukunftsrat (Future Council), Mecklenburg-Western Pomerania

Member of selection committee "KI in der Hochschulbildung" (AI in University Education) (BMBF)

Board member at Deutsche Gesellschaft für Designtheorie und -forschung e. V.

Member of selection committee "Invite – Digitale Weiterbildung" (Invite – Digital Continuing Education) (BMBF)

Member of the Board of Trustees of the Telekom Foundation

PROF. DR. HANNA KRASNOVA

Professor at the University of Potsdam, Chair of Business Informatics, in particular Social Media and Society

Member of the Association for Information Systems

Member of the Board of Directors of the Institut für Wirtschaftsinformatik und Digitale Gesellschaft e. V.

Member of the High-Tech Forum, advisory committee of the German Federal Government for the implementation of the High-Tech Strategy 2025 (BMBF)

PROF. DR. MARTIN KRZYWDZINSKI

Head of the Research Group "Globalisation, Work and Production" at the Berlin Social Science Center (WZB)

Professor for International Labour Relations at the Helmut Schmidt University Hamburg

Member of the Program Committee of the Priority Program "Digitalization of Work Foundation Environments" of the German Research Foundation (DFG)

Member of the Scientific Advisory Board of the "Future of Work" Program of the Massachusetts Institute of Technology

Member of the International Steering Committee of the automotive research network GERPISA

Research Associate at the Oxford Internet Institute

PROF. DR. CHRISTOPH NEUBERGER

Professor at Freie Universität Berlin, Institute for Journalism and Communication Studies

Member of the Bavarian Academy of Sciences (BAdW)

Member of the ad-hoc working group "Future Values" of the Bavarian Academy of Sciences

Member of the National Academy of Science and Engineering (acatech)

Member of the interdisciplinary working group "Quality of Communication of Science under Conditions of Digitalization" of the Berlin-Brandenburg Academy of Sciences and Humanities and the German Academy of Science and Engineering (acatech)

Member of the Excellence Council of Freie Universität Berlin

Member of the Advisory Board of the Research Association NRW "Digital Society"

Member of the Scientific Advisory Board of the Mainz Media Institute

Member of the Selection Committee of the State Research Prize, Ministry of Science, Research and Art Baden- Württemberg

Member of #FactoryWisskomm of the Federal Ministry of Education and Research (BMBF)

Member of the jury of the Grimme Research College

Member of the Scientific Advisory Board of the Federal Agency for Civic Education (bpb)

PROF. DR. AXEL METZGER

Professor at Humboldt-Universität zu Berlin

Member of the German Association for the Protection of Intellectual Property (GRUR), Expert Committee for Data Law

Chair of the Scientific Committee of the German Association for the Protection of Intellectual Property (GRUR)

Head of the arbitration board at Deutsche Gesellschaft für Recht und Informatik e.V.

Co-Rapporteur (Co-Lead) of the commission “Intellectual Property and Private International Law” of the International Law Association
Founding member of Institut für Rechtsfragen der Freien und Open Source Software (IfROSS)

Member of the German Association for the Protection of Intellectual Property (GRUR), Expert Committee for Copyright and Publishing Law

Member of Deutsche Gesellschaft für Recht und Informatik e.V.

Member of the European Copyright Society

Member of the European Law Institute

Arbitrator at Deutschen Institution für Schiedsgerichtsbarkeit e.V.

PROF. DR. BARBARA PFETSCH

Professor at Freie Universität Berlin, Department of Political and Social Sciences

Member of the International Communication Association (ICA)

Member of the European Communication Research and Education Association (ECREA)

Member of the European Consortium for Political Research (ECPR)

Member of the International Political Science Association (IPSA)

Member of the German Communication Association (DGPK)

Advisory Board member of the Center for Advanced Internet Studies (CAIS)

Advisory Board member at the Düsseldorf Institute for Internet and Democracy, Heinrich Heine University Düsseldorf

Member of the Scientific Advisory Board and ombudsperson for good research practices at the Leibniz Institute for Media Research | Hans-Bredow-Institut (HBI)

Member of the working group “Digitalization and Democracy” of the Leopoldina – National

Academy of Sciences

Confidential counselor at the Weizenbaum Institute for the Networked Society

Co-editor of the book series “Politische Kommunikation und Demokratische Öffentlichkeit” (Political Communication and Democratic Publics), Nomos-Verlag, Baden-Baden

Member of the editorial board, Journal of Quantitative Description: Digital Media

Member of the editorial board, Communication Theory

Member of the editorial board, International Journal of Press/Politics

Member of the editorial board, Central European Journal of Communication

Member of the editorial board, Journal of Global Mass Communication

Chair of the Finnish Academy Selection Committee – Communication and Media Studies Selection Committee, 2020-21.

Member of selection committee and assessor of projects, BMBF funding guideline “Zusammenhalt in Europa” (Cohesion in Europe)

PROF. DR. NIELS PINKWART

Professor at the Institute for Informatik of Humboldt-Universität zu Berlin

Dean of Studies, Faculty of Mathematics and Natural Sciences, Humboldt-Universität zu Berlin (until 04/21)

Spokesperson of the ProMINT-Kolleg of Humboldt-Universität zu Berlin

Head of the Center for Technology-Based Learning at the Professional School of Education of Humboldt-Universität zu Berlin

Principal Investigator at Einstein Center Digital Future

Head of the research area “Educational Technology Lab” at the German Research Centre for Artificial Intelligence

Member of Gesellschaft für Informatik e.V.

Member of the Board of Directors of the Educational Technologies Division of Gesellschaft für Informatik e.V.

Spokesperson of the working group Learning Analytics of Gesellschaft für Informatik e.V.

PROF. DR. BJÖRN SCHEUERMANN

Professor at Humboldt-Universität zu Berlin

Junior Fellow of the German Informatics Society, Gesellschaft für Informatik, GI

Lecturer of the Studienstiftung des deutschen Volkes

Research director at the Alexander von Humboldt Institute for Internet and Society (HIIG)

Principal Investigator at Einstein Center Digital Future

Jury member of the 2020 German IT Security Award

Capital Top 40 under 40 (2019), Science and Society

Jury member of the Dissertation Award of Gesellschaft für Informatik e.V.

Principal Investigator at the Berlin Centre for Consumer Policies

Principal Investigator at the Helmholtz Einstein International Berlin Research School in Data Science (HEIBriDS)

Advisory Board member at the Düsseldorf Institute for Internet and Democracy

Member of the extended leadership committee for the interest group “Communication and Distributed Systems”, German Informatics Society

Advisory board member, Blockchain & Society Policy Research Lab, Universität Amsterdam

Member of the study commission of the Faculty of Computer Science

Member of program committee of MedComNet 2021

Member of program committee of the IEEE Vehicular Networking Conference (VNC) 2021

Member of program committee of Wireless Days 2021

Member of program committee of the IEEE Consumer Communications & Networking Conference (CCNC) 2022

Member of program committee of the IEEE IWCMC 2021 Vehicular Communications Symposium

Member of program committee of the IEEE International Conference on Blockchain and Cryptocurrency (ICBC) 2021

Member of program committee of the IEEE Annual Conference on Wireless On-Demand Networks and Systems (WONS) 2021

Member of program committee of the IEEE International Conference on Distributed Computing Systems (ICDCS) 2021

Member of program committee of the European Symposium on Research in Computer Security (ESORICS) 2021

Member of program committee of the Conference on Networked Systems (NetSys) 2021

PROF. DR. DR. THOMAS SCHILDHAUER

Professor at the Berlin University of the Arts (UdK), department of Electronic Business with a focus on marketing

Managing Director of the Central Institute for Continuing Education at the Berlin University of the Arts

Director of the Institute of Electronic Business at the Berlin University of the Arts.

Research director at the Alexander von Humboldt Institute for Internet and Society

Board of the Foundation for Internet and Society

Member of the Advisory Board, Skubch&Company GmbH

Member of the Advisory Board, Neuem GmbH

Member of the Advisory Board, EDUMode Software GmbH

Member of the Supervisory Board, equeo GmbH

Member of the Supervisory Board, Bluechip Computer AG

Member of the Supervisory Board, cbe AG

Member of the Supervisory Board, Stone One AG

Principal Investigator at Einstein Center Digital Future

Member of the Berlin-Brandenburg Academy of Sciences and Humanities

Member of the research board for Industry 4.0, Federal Ministry of Education and Research (BMBF)

Co-spokesperson of the Interdisciplinary Research Group for Science Communication, Berlin-Brandenburg Academy of Sciences and Humanities (BBAW)

PROF. DR. HERBERT ZECH

Professor at Humboldt-Universität zu Berlin, Chair of Civil Law, Technology and IT Law

Member of the Center for Intellectual Property Law Information & Technology (CIPLITEC)

Board Member of Deutsche Gesellschaft für Recht und Informatik e. V. (DGRI)

Member of the German-Italian Lawyers' Association (DIJIV)

Member of the German Association for the Protection of Intellectual Property (GRUR), Chair of the Expert Committee for Data Law

Member of Deutscher Juristentag e. V.

Member of the European Intellectual Property Teachers' Network (EIPTN)

Member of the European Law Institute (ELI)

Member of Gesellschaft für Rechtsvergleichung e. V.

Co-editor of Heymanns Schriften zum Patentrecht (HSP) (Heymann's writings on patent law)

Member of the Swiss Association for Intellectual Property Law (INGRES)

Member of Interdisziplinäres Zentrum für Geistiges Eigentum der Universität Mannheim e. V. (IZG)

Member of the International Association for the Advancement of Teaching and Research in Intellectual Property (ATRIP)

Member of the Swiss Society for Liability and Insurance Law (SGHVR)

Member of the inter-university graduate college "Recht der Informationsgesellschaft" (Law of the Information Society)

Co-editor of the Intellectual Property Journal (IPJ) / Zeitschrift für Geistiges Eigentum (ZGE)

Member of Zivilrechtslehrervereinigung e. V. (ZLV)

6.3 Prizes and awards

Berendt, B. : INFORMS Test of time award. INFORMS Journal on Computing, Mai 2021.

Dietze, M. : Gender Preis (Gender Prize), Potsdam University of Applied Sciences, October 2020.

Feldmann, A. : Community Contribution Award for “On Landing and Internal Pages: The Strange Case of Jekyll and Hyde in Internet Measurement”. Association for Computing Machinery: Internet Measurement Conference (IMC), 2020.

Gräfe, H. C. : Best Paper Award.DWG/Magazine “transfer”. October 2020.

Heger, K. : Best Student Paper Award, Information Technology and Politics Section, American Political Science Association, 2020.

Heimstädt, M. : Add-on Fellowships for Interdisciplinary Economics and Interdisciplinary Business Administration. Joachim Herz Foundation, November 2020.

Kunst, M. : Best Student Paper Award in the field of Political Communication. ICA Conference, May 2021.

Miceli, M., Schüßler, M., Yang, T. : Best Paper Award. ACM Conference on Computer-Supported Cooperative Work and Social Computing, October 2020.

Stocker, V. : Literati Award Winners 2020 as Outstanding Reviewer, Emerald Publishing – Journal: Digital Policy, Regulation and Governance, December 2020.

Stocker, V. : Südwestmetall Funding Award. Südwestmetall, April 2021.

Walter, C. : Fellowship MasterLab #TheNew-Normal. Stifterverband, Heinz Nixdorf Stiftung, April 2021.

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PUBLISHER

The board members of Weizenbaum-Institut e.V.

Prof. Dr. Christoph Neuberger
 Prof. Dr. Sascha Friesike
 Prof. Dr. Martin Krzywdzinski
 Dr. Karin-Irene Eiermann

Hardenbergstrasse 32
 10623 Berlin

Tel.: +49 30 700141-001
 E-mail: info@weizenbaum-institut.de
 Web: www.weizenbaum-institut.de

EDITORIAL TEAM

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Ralf Grötter
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 (EXPLORAT Research & Communication)

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Atelier Hurra Collective
Luisa Le van

Gottschedstrasse 4
13357 Berlin

+49 30 92107770
luisa@atelierhurra.de

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