



RESEARCH ASSOCIATION NRW  
DIGITAL SOCIETY

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# Quo vadis Digital Democracy?

## Strengthening and Preserving Democracy in the Digital Age

*An International Hybrid Conference of the Research Association NRW Digital Society*  
**29 September – 01 October 2022, University of Bonn, Germany and Online**  
Universitätsclub Bonn e.V., Konviktstraße 9, 53113 Bonn

– Program and Timetable –

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12:30	Conference Opening and Project Digital Society Farewell, <i>Caja Thimm (Spokeswoman Digital Society), Andreas Zimmer (Vice Rector, University of Bonn), Mario Anastasiadis (Scientific Coordinator), Marc Ziegele (Spokesman Research Groups), Laura Solzbacher (Spokeswoman Graduate School)</i>
13:45	<b>Keynote I and Discussion: Governing public values in European Platform Societies, José van Dijck</b> Chair: <i>Caja Thimm</i>
15:00	Lunch Break
16:00	<b>Panel 1: Digital Governance and Democratic Institutions</b> 1. Digital Democracy and the Limits of the Law: How the German Constitutional Court Considers Gender-Specific Incivility In the Digital Public Sphere, <i>Sheila B. Lalwani</i> 2. Creating Digital Electoral Publics as a Means of Voting Reform? The Case of California, <i>Christoph Bieber</i> 3. Quo Vadis Digital Greek Parliament in the Quest of Communication between Citizens and MPs?, <i>Georgios Lappas, Amalia Triantafyllidou</i> Chair: <i>Isabelle Borucki</i>
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17:45	<b>Panel 2: Social Media Between Conspiracy Theories and Extremism: Attacks on Democracy in the Digital Society</b> 1. The Alternative Media Repertoire: An Analysis of Shared Alternative and Mainstream Media Content in Counterpublic Telegram Channels, <i>Svenja Boberg, Johanna Klapproth, Saïd Unger, Thorsten Quandt</i> 2. Linking News Use on Social Media to Conspiracy Beliefs: A Cross-Platform Linkage Study of German Media Users, <i>Tim Schatto-Eckrodt, Lena Clever, Lena Frischlich</i> 3. "We have it in our hands!!!!" Collective action mobilization in conspiracy-theory endorsing Facebook groups, <i>Lena Frischlich</i> 4. The battle for the hearts and minds: A Multi-modal Automated Content Analysis of Islamic Extremists' Instagram Propaganda, <i>Lena Clever, Nico Clever, Lena Frischlich</i> Chair: <i>Lena Frischlich</i>
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10:30	<b>Panel 3 and Discussion: Digital Democracy in Times of War (Wolfgang-Paul-Hall)</b> 1. Modification of using instruments of digital democracy in Ukraine during the war, <i>Tetiana Gorokhova</i> 2. Access to official information in times of war: how digital solutions protect the democratic values, <i>Tetyana Oleksiyuk</i> <b>3. Discussion with Tetiana Gorokhova, Tetyana Oleksiyuk and Dmytro Khutkyy</b> Chair: <i>Felix Riefer</i>
12:00	Coffee Break
12:15	<b>Panel 4: Digital Democracy and the Formation of Political Opinion (Schumpeter-Room)</b> 1. Digital media over State-sponsored propaganda in capturing perceptions of the War on Ukraine among Russians, <i>Ekaterina Romanova</i> 2. The Influence of Search Engines on Political Opinion Formation, <i>Fabian Haak, Franziska Pradel</i>
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10:00	<p><b>Panel 10: The Digital Public Sphere III: Strengthening Public Discourse (Schumpeter-Room)</b></p> <ul style="list-style-type: none"> <li>1. Truth and the spirit of inquiry - finding common ground in the online public sphere, <i>Michael Davis</i></li> <li>2. Effects of empowerment moderation in online discussions: A field experiment with four news outlets, <i>Dominique Heinbach, Marc Ziegele, Anke Stoll</i></li> <li>3. Agenda Cutting versus News Diversity. How Topics Disappear from the Media Agenda and how this Affect the Digital Democracy, <i>Jörg-Uwe Nieland, Hektor Haarkötter, Filiz Kalmuk</i></li> </ul> <p>Chair: <i>Jan-Philipp Kluck</i></p>	<p><b>Panel 11: Digital Democracy and Youth (Curtius-Room)</b></p> <ul style="list-style-type: none"> <li>1. Can you tell your societal from your individual concerns? Appraisal of data collection harms to individuals and democracy among young Europeans, <i>Emilija Gagrčin, Nadja Schaetz, Roland Toth, Martin Emmer</i></li> <li>2. The understanding of social media business and operational logics among young people, <i>Sirkku Kotilainen, Guna Spurava</i></li> <li>3. Vlogs as a voice in public debate – youth audience's civic competences, <i>Agnieszka Kampka</i></li> </ul> <p>Chair: <i>Nils Frederik Tolksdorf</i></p>
11:30	Coffee Break	



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16:45	Summary and future perspectives (Schumpeter-Room)	
17:00	End of Conference	

## Keynote I: Governing Public Values in European Platform Societies, *José van Dijck*

Chair: Caja Thimm

The growing pains of digitization involve intense struggles between two platform ecosystems fighting for information control: a Chinese and American-based ecosystem. A handful of American Big Tech platforms have overwhelmingly penetrated Western-European societies, disrupting markets and labor relations, transforming social and civic practices, and affecting democracies. At the heart of the online media's industry's surge is the battle over information control: who owns the data generated by online social activities? While two large ecosystems fight for information control in the global online world, the European perspective on digital infrastructures lags behind.

This lecture takes up two questions. First, how can we govern public values in platform societies across Europe? Values such as privacy, security, transparency, equality, public trust, and institutional sovereignty are important principles upon which the design of platform architectures should be based. Democratic principles and the common good are the very stakes in the struggle over platformization of societies around the globe. Secondly, the lecture focuses on what responsibilities companies, governments and citizens have in building such a sustainable platform ecosystem. Who is responsible for anchoring public values in an online world and who can be held accountable? Particularly in the European context, governments and civil society organizations can be more proactive in negotiating public values on behalf of citizens and consumers.

Prof. Dr. José van Dijck is a distinguished university professor at the University of Utrecht (The Netherlands); she was the president of the Royal Netherlands Academy of Arts and Sciences from 2015 until 2018. She was a visiting professor at MIT (USA), University of Toronto (CAN), Stockholm University (SWE) and University of Technology, Sydney (AUS). She received an honorary doctorate from Lund University (SWE). In 2022, she was rewarded the Spinoza Prize, the highest academic award in Dutch academia.

Van Dijck's academic field is media studies and digital society. Her work covers a wide range of topics in media theory, media and communication technologies, social media, and digital culture. She is the (co-)author and (co-)editor of ten books and over one hundred journal articles and book chapters. Van Dijck's book *The Culture of Connectivity. A Critical History of Social Media* (Oxford UP, 2013) was distributed worldwide and was translated into Spanish, Chinese and Farsi. Her latest book, co-authored by Thomas Poell & Martijn de Waal is titled *The Platform Society. Public values in a connective world* (Oxford University Press, 2018) and was translated into several languages.

## Panel 1: Digital Governance and Democratic Institutions

Chair: Isabelle Borucki

### **Digital Democracy and the Limits of the Law: How the German Constitutional Court Considers Gender-Specific Incivility In the Digital Public Sphere, *Sheila B. Lalwani***

The German Basic Law provides equal protection to men and women, but recent developments indicate how courts have struggled to afford the same rights online to women. This paper draws upon the “law as culture” theory to assess a recent decision by the German Constitutional Court to side with a female politician who was seeking the personal data of several Facebook users over slurs, sexist and violence posted against her on the platform, as an example of the legal challenges of gender-specific online hate speech and the challenge of social media regulation. This project places the decision of the court in the wider context of the debate surrounding online social media regulation, the Network Enforcement Act and increasing evidence that female public leaders are targeted for online speech. This paper analyzes the social media content posted regarding the cases from users and reviews the case in light of the court’s decision to side with Kuenast and the potential implications of the decision for free speech and hate speech in Germany, which have been complicated legal matters since World War II. This paper seeks to contribute an understanding of why combatting gender-specific hate speech against female candidates has been a legal challenge certain to intensify in our increasingly digital world.

### **Creating Digital Electoral Publics as a Means of Voting Reform? The Case of California, *Christoph Bieber***

Since the 2020 Presidential Election a huge number of voting rights reforms were launched throughout the United States. More than 30 states either restricted or expanded voting rights for citizens – with a clear tendency for more hedged elections (Brennan Center 2022). Among the laws seeking to expand voting rights, lawmakers only in a few cases considered the use of digital voting technology as a means to achieve this goal. The state of California is known as a state with an early focus on the secure use of voting machines and other computerized voting-related technology (digital voter information, electronic voting registration, remote voting, electronic pollbook). Leading up to this year’s elections, state officials implemented a broad set of initiatives to digitally inform the electorate, increase voter turnout and guarantee for secure elections.

In this contribution, I will focus on two key aspects examining critical steps in the time until the California General Election is held on November 8. While reaching out to the voters, election officials try to create digital public spaces for voter information, especially to improve the voter registration process. Parallel to this effort, the Office of Voting Systems Technology Assessment (OVSTA) seeks to maintain cybersecurity during the voting process. Reflecting on scope and impact of these efforts I will argue that state election officials need to create “digital electoral publics” (Moore 2021) to improve awareness among citizens as well as to foster the public understanding of basic rules of voting technology.

Finally: Lessons learned from the Californian activities to modernize the electoral process may be considered helpful for overseeing elections in Germany – the failures during the Bundestagswahl 2021 and the possible re-election in many districts in Berlin stress the necessity of this juxtaposition.

### **Quo Vadis Digital Greek Parliament in the Quest of Communication between Citizens and MPs?, *Georgios Lappas, Amalia Triantafyllidou***

The role of Parliaments in effective citizen participation in the context of social media in contemporary society is demonstrated in studies, where in one hand studies demonstrate an effective participation engagement of citizens with their representatives in the context of social media (Bruce

and Moon, 2018, Agarwal et. al 2019), whereas on the other hand reports demonstrate disillusionment and disengagement of the public with their MPs and parliamentary processes (Hansard Society, 2019). Parliaments need to rethink their role and professionalize their behavior in the parliament-citizens context, as parliaments' traditional understanding for themselves being information and service providers, no longer fits the paradigms of the new social media era (Tomazic and Mistic, 2019). Under this light, the role of the Hellenic Parliament portal ([www.hellenicparliament.gr](http://www.hellenicparliament.gr), that we will call here e-GP) in the quest of communication between citizens and their MPs is investigated. Ancient Greek Agora may be considered as the founder of dialogic public engagement into the democratic processes, and under this historical link, the opportunities that social media provides parliamentarians to engage with citizens in public debates may have higher expectations to be met for the Greek Parliament compared to other Parliaments. Moreover, the accuracy of parliamentary portals is important for many e-democracy studies, as Parliamentary portals are perceived from researchers and the public to be reliable providers of information regarding their parliamentary members, also regarding their available communication channels. How accurate then is e-GP in providing to the public all the available communication channels that their MPs use? Research on e-GP for all 300 MP's available communication channels (Website, Facebook, Twitter, Instagram, Youtube and LinkedIn) has been carried out between March 18th and April 1st 2022 and at the same time searching methods outside the e-GP have been carried out for identifying existing available communication channels for each MP. Results surprise a lot in terms of social media context, as the difference between the information provided by e-GP and the actual existing social media accounts of MPs identified outside e-GP is far away from a small difference that may be expected due to unpublished updates and even exceeded 50% in some cases, whereas information related to MPs' websites is quite accurate. An analysis of Greek MPs preferences among social media platforms and their usage that revealed in the research will also be presented in the conference.

### **Participants of Panel 1**

**Sheila B. Lalwani** is a doctoral student at the Moody College of Communication, where she researches global media, information and media policy and law in the U.S. and the European Union. She has spoken and presented at colloquia and conferences in cities, including Warsaw and Leipzig. She earned a Masters in Public Policy from Harvard University and LL.M. in Legal Theory (magna cum laude) from Goethe University. She spent a few months in Austria as an ICFJ Fellow and then a year in Germany as a Fulbright Scholar and McCloy Fellow.

Prof. Dr. **Georgios Lappas** is a Professor in Social Informatics and Political Informatics. He is the Director of the "Digital Media and Strategic Communication Lab", and Vice-Dean of the MSc "Public Discourse and Digital Media". His main research interests are in Social Informatics, Online Politics, Digital Campaigns, E-Government, E-Democracy, Interactive Media, Digital Marketing, Web Mining, Opinion Mining. He has published more than 100 papers in International Refereed Journals, International Refereed Conference Proceedings and Book Chapters. He served as PC member in more than 120 international conferences and served as member of editorial board in journals such as J of Information Technology and Politics, J of Entertainment Technology and Management, J of E-Government. He co-chaired 3 international conferences, was member of the organizing committee in 7 international conferences, publicity chair in 3 international conferences and session chair in more than 20 international conferences. He coordinated and participated in many projects national and European funded projects.

**Amalia Triantafillidou** is an Assistant Professor of Communication and Public Relations at the Department of Communication and Digital Media at the University of Western Macedonia, Greece. She holds a Ph. D. in Marketing and Consumer Experience from Athens University of Economics and

Business and the Department of Business Administration Her research interests focus on communication, public relations, social media and online communication, and crisis communication management. She has expertise in conducting market research through quantitative surveys and qualitative research and analysis and she has conducted extensive research on crisis communication and management. She has published in refereed journals such as Journal of Information Technology and Politics, Local Government Studies, New Media and Society, Computers in Human Behavior, Public Relations Review, International Journal of Contemporary Hospitality Management, Journal of Consumer Behavior, International Journal of Retail and Distribution Management, Journal of Hospitality Marketing and Management, etc.

Prof. Dr. **Christoph Bieber**, born 1970 in Laubach/Hesse, is Professor of Political Science at the NRW School of Governance, University of Duisburg-Essen, Germany. The position is funded by the Johann-Wilhelm-Welker-Stiftung. His main area of research is ethics in political management and society. Christoph Bieber has published widely on the effects of online communication for political actors, a special focus is addressing the effects of digitalization for the US political system. Since 2018 he has been delegated to the Center for Advanced Internet Studies (CAIS) in Bochum, where as a research professor he directs the program “Digital Democratic Innovations“ that runs from 2021 until 2026. On Twitter he is known as @drbieber.

## **Panel 2: Social Media Between Conspiracy Theories and Extremism: Attacks on Democracy in the Digital Society (*submitted panel*)**

Chair: Lena Frischlich

### **Panel Info**

Digital technologies offer new opportunity structures for “dark participation” (Quandt, 2018) content that violates or even attacks democratic norms including hate speech, disinformation, and propaganda. Representative surveys show that experiences with dark participation are widespread, especially among social media users (e.g., Sangerlaub & Schulz, 2021; Reinemann et al., 2019). Security agencies fear that particularly extremist propaganda and conspiracy theories can fuel the endorsement of non-normative, violent political means and thus threaten the democratic coexistence. Consequently, understanding the dissemination, staging, and effects of such content is of uttermost relevance. The panel brings together four studies by current and former members of the DemoRESILdigital research group. The single studies show how established and alternative news are referenced within the Telegram channels of the COVID-19 skeptic Querdenken movement; how using alternative news media fuels conspiracy beliefs over time; how conspiracy theories-endorsing Facebook groups mobilize their members, and how Islamic extremists cover their hostile ideologies on Instagram. Together, the contributions underscore the central role of emotions for attacks on democracy in the digital realm and highlight the benefits of combining traditional social scientific and computational methods in digitalization research.

**The Alternative Media Repertoire: An Analysis of Shared Alternative and Mainstream Media Content in Counterpublic Telegram Channels,** *Svenja Boberg; Johanna; Saïd Unger; Thorsten Quandt*

While skeptical counterpublics and conspiracy communities have seemingly always existed around a wide variety of topics, especially the COVID-19 pandemic has intensified the ongoing discussion about the extent to which these are drifting away from the societal common ground. Following the concept of information laundering (Klein, 2012), counterpublics pursue their agenda under the guise of legitimate information through the integration of credible sources. A special light is shed on the role of alternative media, which position themselves as a "corrective" to the hegemonic "mainstream" media system and function as an alternative system of reference. However, it is unclear whether counterpublics in online spaces are indeed isolated from mainstream media and how links to different types of media are used to underpin counterpublic argumentation. This study examines counterpublic telegram channels concerning the use of different media sources as a reference along various topics and the embedding of media sources in terms of distinction, mobilization or emotionalization. Therefore, we collected 98,887 messages from 48 Telegram channels of the Corona critical Querdenken movement during the fifth wave of the pandemic and conducted an automated content analysis combining Topic Modeling, Sentiment Analysis and Close Reading. The results provide insights into the argumentation of counterpublics and illustrate that especially highly emotional content of the mainstream media serves as a breeding ground for information laundering.

**Linking News Use on Social Media to Conspiracy Beliefs: A Cross-Platform Linkage Study of German Media Users,** *Tim Schatto-Eckrodt, Lena Clever, Lena Frischlich*

When COVID-19 spread around the globe in 2020, it was the first pandemic to hit a digitized society. The spread of the virus was rapidly accompanied by an abundance of conspiracy theories across a variety of digital information environments (Bruns et al. 2020). Amongst others, alternative news media were accused of contributing to this 'infodemic'. Yet, the causal relationships between alternative news' coverage and users' conspiracy beliefs have seldom been tested taking users' actual media diet into account. The current study aims at filling in this gap and examines the link between alternative news use and conspiracy beliefs over time using an innovative combination of large-scale social media content analyses of German established and alternative news media on Facebook and Twitter, linked with a three-wave panel of German social media users of these platforms and the examined news brands. We find that overt and direct spreading of conspiracy theories was a rare occurrence in both alternative and established media's reporting. Yet, the use of conspiratorial and uncertain language predicted change in conspiracy endorsement over time.

**"We have it in our hands!!!!" Collective action mobilization in conspiracy-theory endorsing Facebook groups,** *Lena Frischlich*

Conspiracy theories are widespread in social media especially during crises such as COVID-19. Concerns are high that conspiracy theories might motivate deviant collective action. Psychological research identified three central factors motivating collective action: (1) identification with a social group, (2) perceived injustice towards that group, and (3) the perception that collective action against this injustice would be effective (van Zomeren et al., 2008). If action is perceived to be ineffective, non-normative collective action such as violence becomes more likely. Based on this background, the current study examined the prevalence of such potentially mobilizing collective action cues in the posts of four conspiracy-theory endorsing Facebook groups with varying ideological stances. The results of a mixed methods study (N = 828 posts) identified four clusters of posts: Low mobilizing "alternative views" (cluster 1) or "absolutist ideologies" (cluster 2). However, more than one-third of the posts could be assigned to the "mobilization" (cluster 3) or "wrathful" (cluster 4) clusters. Posts in these clusters contained manifold cues for collective action, including

emotions likely associated with deviant behaviors. Judged by the aggregated likes, shares and comments, the mobilizing posts were more engaging, whereby the type of posts and level of engagement varied between the examined groups. The examined fringe groups (far right and chemtrail believers) published more mobilizing posts than less extreme groups (COVID-19 skeptics and political affairs). The results are novel in that they document the prevalence of cues for normative and deviant collective behavior in various conspiracy-theory Facebook groups, providing the basis for a nuanced view of mobilization strategies in this context.

**The battle for the hearts and minds: A Multi-modal Automated Content Analysis of Islamic Extremists' Instagram Propaganda**, *Lena Clever, Nico Clever, Tim Schatto-Eckrodt, Lena Frischlich*

Instagram is one of the most popular apps among adolescents, making the app an attractive target for extremist propaganda. Affect and emotion are central tools for extremist propaganda and can be used to cover hostile intents. So far, research on propaganda's combined employment of different social media affordances such as hashtags, visuals, and texts to address users' affect and emotions and transmit hostile ideologies is scarce. The current study contributes to closing this gap. Using the German group Generation Islam as a case study, we examined the groups' Instagram activity (N = 1187 posts) over the course of two years. To reflect the platforms' user-logic, we (a) examined affect in the hashtag networks via which users can stumble over the propagandistic content; (b) employed deep learning to examine emotional valence transmitted in the visuals and (c) used automated linguistic analysis to describe collective action cues within the texts. The results are novel as they provide nuanced insights into extremist propagandas' employment of affect and emotions across Instagrams' affordances.

**Participants of Panel 2**

**Svenja Boberg** is a communication scholar and PhD-student at the University of Muenster where she currently works in the HybriD-project on the real-time detection and identification of hybrid disinformation campaigns in online media. In her research, she employs computational methods to study emotional discourse dynamics in online environments and different facets of dark participation.

**Lena Clever** has a background in Business Information Systems. She is a PhD-student at the University of Muenster where she currently works in the DemoRESILdigital junior research group. In her research, Clever employs computational methods to study dark participation and explores computational methods for fostering democratic resilience.

**Lena Frischlich** is a media psychologist and communication scholar at the University of Muenster. Currently, she is the principal investigator (PI) of the DemoRESILdigital junior research group that studies "democratic resilience in times of online propaganda, fake news, fear and hate speech". Frischlich is particularly interested in the new opportunity structures for dark participation and democratic resilience that emerge in digital environments.

**Johanna Klapproth** is also a communication scholar and PhD-student in the same project. Before that she worked as a student assistant in the DemoRESILdigital research group. Her research tackles dark participation and potential counter-measures.

**Tim Schatto-Eckrodt** is a communication scholar and PhD-student at the University of Muenster where he currently works in the DemoRESILdigital junior research group. In his research, Schatto-Eckrodt employs computational methods to study different facts of dark participation but particularly the dissemination, staging, and effects of conspiracy theories.

**Said Unger** has a background in sociology and now works on his PhD in the HybriD project too. In his research, he employs computational methods to study dark participation but also science itself.

**Thorsten Quandt** is the chair of online communication at the University of Muenster and PI of the HybriD-project. His research fields include online communication, digital games and (online) journalism. Quandt is particularly interested in the societal changes connected to the Internet and new media, and the question of how human beings have evolved in sync with these changes.

## **Keynote II: Digital Democracy in Ukraine: Resilience, and Resistance, *Dmytro Khutkyy***

In recent years, Ukraine's digital democracy developed and advanced in multiple innovative forms. This year's Russia's full-scale offence on Ukraine mobilized Ukrainian society and the government for an intensive use of digital means to ensure an efficient resistance. To outline an overarching perspective, this keynote will address the following issues. What is overall the role of online media, social media, and digital democracy in Ukraine? How is digital media by Ukrainian citizens and authorities to organize society and the state during the war time? What are the victories and challenges of Ukrainian e-democracy?

Dmytro Khutkyy is a Research Fellow in Digital Governance, Johan Skytte Institute of Political Studies, ERA Chair, at the University of Tartu. Before, he was the Policy and Advocacy Advisor at European Digital Development Alliance as well as the National Researcher at the Independent Reporting Mechanism, Open Government Partnership initiative, and Expert at the Coalition for the Advance of e-Democracy in Ukraine. He has obtained his PhD in Sociology at the Institute of Sociology of the National Academy of Sciences of Ukraine and taught sociology courses at the National University of Kyiv-Mohyla Academy. In Ukraine, he participated in grassroots civic activism within the Center for Innovations Development, Reanimation Package of Reforms, and Transparency International. Khutkyy evaluated and advised regarding reforms of the Ukrainian government concerning the access to information, public accountability, and civic participation. He conducts research, training, and communication in order to promote digital democracy and innovative governance.



## Panel 3: Digital Democracy in Times of War

Chair: Felix Riefer

### **Modification of using instruments of digital democracy in Ukraine during the war, Tetiana Gorokhova**

The emergence of digital technologies in the world definitely influenced the formation and development of modern society. Definitions in legislative and regulatory documents of concepts fundamental to digitalization understanding, such as "information", "information resource", "information security", etc., and the analysis of global trends in the development of humanity in the XXI century allow us to assert that the further development of states will take place according to conditions of substantial technological and psycho-emotional challenges and risks. Today, societies, politics, military affairs, and science and education are formed on these foundations. Risks become the foundation of a fundamentally new economy (knowledge-based economy), the basis of the competitiveness of countries where new breakthrough high-tech technologies are created.

The Russian Federation unleashed a war in Europe. Disinformation, special information operations, operations of cultural influence, and mass murders. War is a challenge not only for the security of the country but also for human rights and democratic principles and values.

Advertising, propaganda, crushing and fragmentation, interception of information, the ability to distort it - everything becomes a weapon that definitely affects democratic processes.

The research focuses on several issues:

1. How are digital activism, Open-source intelligence (OSINT), and using big data influenced the democratic process in Ukraine?
2. How does the government use digital media to wage digital warfare and increase influence?
3. Modification of using the digital platforms during wartime in Ukraine (for ex. "Diya" platform, digital platforms of government agencies).

The study used methods of quantitative and qualitative content analysis. The similarity in the topics covered during the chosen period, the way of coverage and accents, the use of emotions, evaluative judgments, and other manipulative technologies, etc. on news sites, and government sites that are most popular in Europe and Ukraine. With the help of this analysis, it is possible to determine the rhetoric that is picked up on these platforms, and how it influences public opinion.

### **Access to official information in times of war: how digital solutions protect the democratic values, Tetyana Oleksiyuk**

The right of access to information held by government empowers the society to engage and participate in democratic decisions-making processes, this right is widely recognized in numerous of international treaties (1). Digitalization of the sphere opens the brand-new opportunities to ensure prompt and free access to the official information, but, at the same time, raised the new challenges which need to be addressed. The right to information is not absolute, and in times of war the issue of proper balance between the right to know and other vital interests, like national security, becomes critical.

The experience of Ukraine could be a good illustration on how important digitalization of the government is to provide citizens with the accurate and timely information, and the lessons learned during the Corona crisis helped to meet the challenges of the war time. Meanwhile, some decisions of Ukrainian government concerning, for example, total restriction of the access to public state registers, are highly criticized.

The submission examines the international standards in access to information sphere (2) which can help to find a balanced between the national security protection and democratic values. It also aimed at answering the question whether the international standards, developed for the

traditional paper document flow, fit for the modern digital reality and how the concept of “openness by design” (3) can improve access to information in times of crisis.

### **Participants of Panel 3**

**Tetyana Oleksiyuk**'s considerable 15+ years' experience includes conducting research, teaching and advising on national legislation and international standards in the access to information sphere. She significantly contributed to improving access to information legislation and administrative practices by collecting information from a wide range of sources at both central and local levels, transforming it into recommendations and passing them on to the policymakers. She actively advises the main stakeholders of access to information sphere in Ukraine (Ombudsperson, Council of Europe, UNDP, representatives of official authorities, Supreme Court of Ukraine and NGOs) and shares her expertise via numerous training. In 2022, Tetyana Oleksiyuk was elected as a member of the Group of Specialists on Access to Official Documents (under the Council of Europe Convention on Access to Official Documents).

**Dr. Tetiana Gorokhova** is Guest Researcher at the Center for Advanced Internet Studies in Bochum, Germany (Research project: Research of Digital Propaganda Models in the Age of the Internet, Big Data and Social Media in Ukraine and EU countries). She is an expert for the Council of Europe on Youth for Democracy in Ukraine (development of training programs, mentoring of communities participating in the project) and expert in the National Agency for Higher Education Quality Assurance (NAQA).

**Dr. Felix Riefer** is a political scientist from Bonn. He studied political science, regional studies of Eastern and Central Europe and social sciences at the University of Cologne and at Sciences Po - Paris School of International Affairs (PSIA). His work focuses on Russia, the post-Soviet space and research on Russian-German (late) emigrants. Dr. Riefer is a member of the advisory board of the Lew Kopelew Forum e. V. and works at the Institut für Migrations- und Aussiedlerfragen Heimvolkshochschule St. Hedwigs-Haus e.V.

## **Panel 4: Digital Democracy and the Formation of Political Opinion**

Chair: German Neubaum

### **Digital media over State-sponsored propaganda in capturing perceptions of the War on Ukraine among Russians, Ekaterina Romanova**

In February, Russia started an unjustified War on Ukraine and drastically limited information availability inside Russia. While traditional media are controlled by the state, the digital sphere stays less controlled due to its networked structure (Denisova, 2017). When citizens are exposed to sources that provide multiple positions on the same issue, the state agenda loses its monopoly on public opinion (Wojcieszak et al., 2019). Current developments in Russia offer a rare opportunity to explore media effects in a closed-up media environment. To examine in what way the use of different media sources is related to perceptions of the War in Ukraine among Russians, I analyzed traditional state-controlled media in comparison to digital media. Nationally representative survey data collected by an independent research agency in March was used. The main

findings highlight that the use of digital media was associated with a stronger opposition to war. Moreover, the relationship between media sources and opposition to war varied by state support and emotional state.

**The Influence of Search Engines on Political Opinion Formation (ESuPol), *Fabian Haak, Franziska Pradel***

The influence of search engines is a crucial factor in political opinion formation. Research has focused on the study of search results - but other aspects of online information related to online search have received less scholarly attention so far. The ESuPol project specifically investigates bias in search engine autocomplete suggestions and consequences for political opinion formation. The ESuPol project specifically investigates bias in search engine autocomplete suggestions, i.e., the information popping up when typing into a search bar, and potential consequences for political opinion formation. Research remains limited, particularly on the potential influence of search engines in European countries, and the sparse context and limited data access pose significant challenges in detecting bias. Using interdisciplinary methods, an interdisciplinary team of computer scientists and information scientists (Cologne University of Technology) and political scientists (University of Cologne) collect in the ESuPol project novel data of politics-related autocomplete suggestions from different search engines, such as surrounding national and European political actors and completions related to international events like Brexit and European election that allow the systematic analyses of bias. Using the large-scale data, the project investigates the existence of potential biases and how bias can be effectively and efficiently measured in autocomplete suggestions. Moreover, the project explores with experimental methods which factors such as lack of search or media competence and pre-existing attitudes have on the opinion-forming process. The talk will provide insights into key findings on the measurement, existence, and influence of bias in political information in search engines.

**Digital Reactance: Freedom and Control Narratives as Political Motivators on Telegram, *Katharina V. Hajek***

Social movements use messages of snatched freedom, entitled control for the people or missing legitimation of political actors as motivational narratives. Thus, they exert the mechanisms of Psychological Reactance (PR) (Brehm, 1966) that claims freedom limitations go along with anger and negative cognitions and an urge to restate freedom. In my PhD project I show, that this urge motivates (digital) protest behavior on the political sphere. This study follows the argument, that PR cues find fruitful soil on social media due to anonymity, disinhibition, and forceful language that encourage PR mobilization. I aim to model processes of PR as recurring patterns in social media communication resulting in the formation of political will, and means of mobilization. Therefore, I conduct a content analysis (ongoing) of messages, reactions and comments from five of the most growing political oppositional telegram channels three months before the German election in fall 2021 till the formation of the new Government in December 2021. I am deriving typologies of interaction patterns using the bag of word machine learning approach and classic qualitative content analysis. This provides a first valuable insight in how PR motivation unfolds on telegram as a highly unrestricted social media platform. Findings open means toward a PR sensitive communication strategy, and lay the groundwork for a theory of digital reactance. Subsequently, results will translate to in a follow up study during US-mid term elections in November 2022, examining the US-American online platform reddit. Together, all findings will be merged in an experiment offering a new approach to digital motivation practices based on PR that leads to a scale for measuring reactance arousal in digital environments.

### **Smartphones based interventions: targeting political identity formation processes, *Rayner García Hernández***

In the Cuban sociocultural context, users play a key role in the creative use of data-driven technologies and the consumption of all kinds of information. Based on the assumption that digital media means organization, power and calculation (Peters 2015), this paper analyzes the relationship between politics, culture and society to investigate the media practices of Cuban users. To achieve this goal, the paper investigates two examples of mediatization of political process and Smartphone-based interventions that reshape the public spaces in Cuba: La revolución de los aplausos (the applause revolution) on November 27th 2020 and the protest across the country on July 11th 2021. Through the new Decree-Law 35, implemented on August 17th 2021, the Cuban government made public several norms regulating and controlling the users activities online. Thus, digital practices are established in a field of tension between traditional elements of institutional communication and new political processes that determine the transition towards a renewed organizational culture.

### **Understanding the Impact of Disinformation online, *André Calero Valdez, Luisa Vervier, Martina Ziefle, Poornima Belavadi, Laura Burbach, Patrick Halbach***

The Covid-19 pandemic has exemplified the importance of combating disinformation in social media to ensure social cohesion in democratic societies. In Germany, approximately 9% reject vaccinations against the corona virus and the strength of rejection has increased over time (Betsch et al., 2020). This process can be seen as a classical polarization process. And processes of opinion polarization can be followed by processes of social polarization and increases in radicalization and segregation (Halbach et al., 2020). Radicalization may also include anti-scientific and anti-establishment beliefs. Reasons against vaccinations are to a large extent non-scientific and likely caused by belief in disinformation (correlation of  $r = .5$ , Betsch et al., 2020). Here, disinformation have been especially harmful in fighting Covid-19, as the attitudes towards measure effectiveness have shown a large impact on protective behavior (Kojan et al. 2022), which are themselves prone to disinformation. Moreover, disinformation in the form of fake news is potentially more detrimental, as users are less likely to detect the fabricated nature of its content (Halbach et al., 2020). We have studied the impact of information spread in complex agent-based (Retzlaff et al., 2022) and equation-based (Dönges et al., 2022) epidemiological models on reduction/increase of cases and potential detrimental effects (Cypionka et al., 2022). In these models, we used previously established agent architectures that integrate cognitive, affective, and behavioral feedback loops in opinion formation (Burbach et al., 2019, Burbach et al., 2020). We found that information and disinformation play a substantial role in the shape of epidemic wave. Mitigation of disinformation is critical to combat epidemic outbreaks (Dönges et al., 2022). If ignored structures of disinformation may crystallize into structures of social segregation posing a potential threat to democracies. Using these results, we have repeatedly called for immediate actions (Priesemann et al., 2021, Calero Valdez et al., 2022). Several follow up projects (two in our group) have been funded to further investigate the impact of opinion formation on epidemiological events (e.g., infoXpand, OptimAgent both funded by the BMBF).

### **Participants of Panel 4**

**Katharina Hajek** (M.A.) is a PhD-Researcher in Social Psychology Berlin University of the Arts & UC Berkeley and a passionate researcher with a special interest in public motivation processes. Experienced in interdisciplinary research and convinced, that social sciences need diverse approaches to understand the complex environments of human behavior. Creating a skillset for using AI technology to research digital communication contexts (social bots). Scholarship holder, spokeswoman for the network of young political communication scientists (German Communication Association), board member of the Human and Social Sciences Association (HSSA) at University of California (UC), Berkeley.

Dr. phil. **Rayner García Hernández** is researcher in Media & Communication Studies (2020) and has a Bachelor Degree in Philosophy with the main focus on Aesthetics (2007). I was professor at the Faculty of Philosophy, History and Sociology (University of Havana) from 2007 to 2015, where I was teaching Philosophy and Aesthetics. Between 2015 and 2020, I was PhD candidate, awarded with a scholarship from DAAD (German Academic Exchange Service), at the Faculty of Art and Design at the Bauhaus-Universität Weimar. The scope of my research in Germany was to get in contact with other theories in the field of European and especially German media theory. Prior to that, I dealt primarily with media and communication theories of Anglo-American and Spanish-speaking countries. My main interest in Social Science and in the Humanities focuses on the economic, political and cultural aspects of social change. Therefore my research aims at understanding political processes and cultural phenomena in the field of Media Studies not only through a non-media centric approach, but focusing on socio-technical and cultural change. Thus, I aim at analyzing the different shapes of process like digitalization and mediatization within our everyday life. Due to the broad scope of Media Research, I strive to investigate, analyze and present different and comparable perspectives from which novel theories can be highlighted. To achieve this goal, I want to pursue a practice-oriented research that is not only based on texts but also on the empirical investigation of anthropological, communicative and philosophical aspects of our postmodern societies.

**Katerina Romanova** is a PhD student Mass Communications at the University of Florida (USA). Her research interest primarily lies in the field of political communication in both democratic and authoritarian regimes. Through primarily quantitative research methods, Ekaterina has studied emotions in politics, partisan media use, gender stereotypes in politics, media trust and political misperceptions.

Dr. **Luisa Vervier** received her doctorate in philosophy with honors from RWTH Aachen University after studying psychology. Today, she is a Senior Researcher at the Chair of Community Science at RWTH Aachen University.

Prof. Dr. phil. **André Calero Valdez** is Professor of Human-Computer Interaction and Usable Safety Engineering at the University of Lübeck. From 2007 to 2018, he received his PhD in psychology from RWTH Aachen University. Today, his main research interests are Human-Computer Interaction, eHealth, AI and Recommender Systems, Information Visualization and Technology Acceptance.

## Panel 5: Media Ethics and Autonomous Decision Making

Chair: Yannik Peters

**AI meets Public Discourse: Ethical Considerations on the Interference of AI in Online Discussions**, *Dennis Friess, Jonas Aaron Carstens*

The literature on artificial intelligence (AI) in communication has rapidly increased in recent years. Following Hancock et al. (2020, p. 90) AI broadly refers “to computational systems that involve algorithms, machine learning methods, natural language processing, and other techniques that operate on behalf of an individual to improve a communication outcome.” However, AI aiming to improve communication outcomes

may also trigger ethical issues, which constitute our main point of interest. While scholars may intent to improve the quality of public online discourses when introducing and training automated hate speech detection tools, argument mining and moderating bots, they may also increase existing inequalities. Since determining what is a solid argument, an appropriate wording or a comment worth to be automatically replied to by a bot has powerful implications, such decisions have to be the subject of ethical reflections. A process that seems to be in place for some AI decision making – e.g. medical diagnostic tools or credit scoring – but is less developed in the context of AI interfering in public online discourses. The paper will discuss certain norms that arise from deliberative theory (e.g. rationality, civility reciprocity) and respective AI-solutions that have already been employed. In the next step we will discuss ethical aspects for each dimension. The philosophical perspective applied puts a focus on the supposed neutrality of algorithms. Against this backdrop, we argue that AI-discourse mediation can enforce existing hierarchies while appearing as a neutral tool to improve communications. Hence, the deployment of AI should be evaluated through a framework that explicitly addresses equality instead of presupposing neutrality.

**Exploring opportunities and risks in decision support technologies for social workers**, *Diana Schneider, Angelika Maier, Philipp Cimiano, Udo Seelmeyer*

We present findings from the MAEWIN project (Decision Support Systems in welfare institutions) that we recently published (Schneider et al., 2022). We investigate in particular how social care provider professionals in disabled people's services could be supported by decision support systems (DSSs) in social care service planning. Although DSSs are not yet used in social work in Germany, algorithmic decision-making systems, including DSSs, are applied in more and more socially relevant contexts and they "affect almost all kinds of human activities, and, most notably, the distribution of services to millions of European citizens – and their access to their rights" (Chiusi et al., 2020, p. 6). Therefore, the investigation of the opportunities and risks of algorithmic systems is particularly important in order to be able to recognise their unintended implications at an early stage.

In doing so, we rely on interviews with social work professionals to explore expectations and fears about DSSs, and how they could be integrated into professional practice. Our findings support the conclusion that DSSs providing visualisations of clients' development are perceived to support decision-making.

**Learnings from Studying Data Ethics Guidelines and Recommendations for Data Journalism**, *Aline Franzke, Laura Solzbacher*

Journalism is undoubtedly a major pillar of democracy and debates surrounding buzzwords like deep fake, fakenews and filter bubbles seem to have shattered the trust into what journalism role will be in in this so called datafied world, in which Information technologies have become an inextricable feature. The question of how we a) design information technology, b) deal with massive datasets, c) extract knowledge from them and d) live within raises major concerns. In short, information technology itself, and the role of data journalism has become subject of burgeoning ethical debates. Unsurprisingly ethics guidelines on how these technologies are meant to be built, used and implemented are continuously published and aim to be implemented in profit and non-profit institutions alike (Franzke, 2022).

This article will shed light into the question of how ethics guidelines for data journalism can look like with particular focus on the democratic potential of journalism. On the basis of six expert interviews, that are accompanied by 70 online with journalists in Germany, this article will firstly distil particular ethical struggles of German journalist (Solzbacher, to appear). The leading question of this prior examination has been in what way democratic participation has been changed through data driven journalistic practices. These findings will be compared with existing studies on ethics guidelines and overarching principles compared to already existing themes of ethical themes (Fjeld 2020; Jobin et al 2019; Franzke 2022).

After carving out the connection between data journalism, their ethical struggles and political theory regarding the role of democracy a taxonomy along three axes - namely, overarching principles, technological inherent struggles, institutional dynamics- will be presented. The article will conclude with a recommended outline of how ethical guidelines for data journalism, that aim to counterbalance non participatory democratic tendencies, could look like.

#### **AI as a Tool of Propaganda: The Case of FEDOR the Robot, *Andrei Korbut***

In 2019 anthropomorphic robot FEDOR, developed by the Russian tech company Android Technics, spend 16 days on International Space Station. This event, widely covered by official Russian media, was presented as a triumph of Russian robotics over “Western” one. FEDOR’s space trip was a culmination of long process, whose public part started in 2015 when the prototype of FEDOR was demonstrated to Vladimir Putin as a military robot. In my paper I will consider how the media career of FEDOR changed over time and why FEDOR’s space trip can be considered an example of wider entwinement of media and politics characteristic of contemporary Russian propaganda. In this propagandistic entwinement AI becomes a “shallow technology” whose only aim is to produce desired media effects. This poses a question of how anti-democratic regimes can use cutting-edge digital technologies to strengthen their grip through the media. To analyze the media career of FEDOR, I will use Mark Coeckelbergh’s concept of “technoperformance.”

#### **Participants in Panel 5**

Prof. Dr. **Udo Seelmeyer** works at the Faculty of Social Science at the FH Bielefeld. He holds a professorship for Social Work here since 2017. He is also the Chairperson for the "Center for Health, Social Services and Technology" at the FH Bielefeld, the Vice Chairperson at "Career@BI - Center for Cooperation and Career-Management" and the Vice Chairperson of the NRW-Graduiertenkolleg 'Digitale Gesellschaft'.

Dr. **Dennis Friess** is the Chief Coordinator of the Düsseldorf Institute for Internet and Democracy at the Heinrich-Heine-University Düsseldorf. He specializes in research on political (online-) communication, online deliberation as well as online participation. Moreover, he works on the ethical and practical aspects of artificial intelligence in online discussions.

**Jonas Carstens** (M.A., M.Ed.) is a Research Assistant at the Chair for Political Philosophy and Ethics at the Heinrich-Heine-University Düsseldorf. In his Ph.D. project he examining ethical aspects of artificial intelligence and discrimination. Furthermore, he works on democratic theory and inequality.

**Prof. Dr. rer. pol. Philipp Cimiano** studied computer science with a minor in computational linguistics and graduated from the University of Stuttgart. He received his doctorate (Dr. rer. pol.) at the Faculty of Economics at the University of Karlsruhe in 2006. The title of the dissertation was "Ontology Learning and Population: Methods, Evaluation and Applications". Since 2010 he holds a professorship in Semantic Databases at the Faculty of Technology at Bielefeld University.

**Andrei Kurbut** is an independent sociologist who study human-computer interaction using naturalistic methods. The main topic of his studies are user practices, real-world encounters with artificial intelligence, and societal effects of digital technologies. Until 2022 he worked at the Higher School of Economics (Moscow, Russia) but left the university and Russia due to Russia’s invasion of Ukraine.

## Panel 6: The Digital Public Sphere I - Conceptualization and Theorization

Chair: Laura Solzbach

### **Reconstructing the Digital Public Sphere, *Manuel Biertz***

The digital public sphere is in a notoriously precarious state, not only due to 'new' phenomena like echo chambers, filter bubbles, and fake news, but also due to its infrastructure being hosted by a small number of incredibly powerful platform companies that are not guided by journalistic selection rules but by the logics of attention economy. To counter this refeudalisation, we often demand for extensive regulation of platforms and sometimes the creation of alternative platforms. With Seemann's insights into platform power<sup>1</sup> I argue that regulation is risky and actually strengthening the biggest platforms, and that creating alternative (centralised) platforms would (at best) reproduce the same power structures. Drawing from Rasmussen's optimistic reconstruction of the digital infrastructure that he assumed would lead to 'convergence without control'<sup>2</sup>, I argue that we should instead promote a decentralised and federated public sphere hosted by both public and private actors of different sizes, which could slowly become a counterweight to platform power and would also revivify the emancipating effects of the originally 'anarchic infrastructure' of the internet.

### **Post-Publics: De-/Re-Constructing the Public Sphere, *Martin Herbers***

Several disruptive processes alter state and function of democracy and the public sphere: Changes in digital technologies bring forth new forms of media, e.g., social media, allowing users to publish content and engage with the content of others. This leads to media-cultural changes, as these new "producers" blur the former boundaries of production and consumption. New forms of content adhere to the idea of "spreadability", allowing the content to bridge audiences. The social transformation to a society of individuals leads to a more personalized approach to the public sphere through forms of "public connections". Changes in politics reflect the process of individualization and become visible through the loss of relevance of political institutions for political organization. New forms of activism e. g. "connective action" reveal the personalized approach to politics through public connections and social media. Against this backdrop, the theory of the public sphere needs reformulation to accustom to these transformations.

Hence, the paper provides a new theory called Post-Publics. It presents the concept of publicness with its distinct forms of the public sphere as the democratic site for deliberation, and the Post-Publics as communicative practices of individuals, seeking to establish public connections through digital media. Forming fluid networks of communication, these Post-Publics connect to the public sphere. This is illustrated through an analysis of the Post-Publics of the technology-driven Maker Movement.

### **Structuring the Structural Change - Reconceptualizing the Digital Transformation of the Public Sphere Using a Multi-Level-Approach, *Yannik Peters***

If one follows the current state of research on the digital transformation of the public sphere, one finds that a variety of descriptions and conceptual approaches coexist and compete. What they have in common is that they highlight a specific section of the digital public sphere. This is particularly evident in concepts such as "affective publics" (Papacharissi 2014), "networked publics" (boyd 2008, Castells 1996), "mini-publics" (Thimm 2016), "fragmented public sphere" (Dahlberg 2007), "virtual publics" (Papacharissi 2009), "algorithmized publics" (Hagen et al. 2017), "long-tail publics" (Eisenegger 2017) or "hybrid publics" (Perusko 2021). While these concepts undoubtedly make a highly relevant contribution to



understanding digital publics, their emphasis on one specific principle makes it difficult not to neglect other features of the digital public sphere. This is where this paper comes in and asks for an integrative perspective that is able to describe digital public spheres as a whole, doing so by adapting the multi-level model of the public sphere (Gerhards/Neidhardt 1990). While researchers have so far tended to opt for a simple transfer of levels into the digital space (Katzenbach 2016, Neuberger 2009), it is argued for an entirely new level structure, driven by three sub-processes of digital transformation of the public sphere: participation, pluralization and platformization. The vertical levels of the model describe the digital public sphere being constituted on the basis of platforms. Here, topic- and event-centered sub-publics are formed. These are made up of content and the reactions by specific users and actors. Horizontal levels on the other hand specify certain dimensions of the vertical level (e.g. spatiality, linguisticity, and transnationality). The derived multi-levels can be described as multiple, hybrid and networked. In addition to structuring the digital public sphere, the various concepts of the digital public sphere are structured as well.

### **A new in-between à-venir? Thinking Privacy and Emancipation with Arendt, Zanan Akin**

The starting proposition of this lecture is to establish a link between the question of privacy and the question of solitude in the Arendtian sense of the term. In how far there could be a link here? Insofar, that the question “in how far privacy is possible in the digital age?” could be “translated” likewise as asking the question: “In how far solitude, that is a temporary withdrawal from the society without necessarily falling into loneliness, that is without being excluded and isolated is still possible”? The objective of such a framing is to reveal the task of rethinking privacy as the same of rethinking democracy and emancipation in our present times. At least two articulations will pave the way: First, the articulation of the question of privacy as a question of a right to solitude will trace the experience, especially after the pandemic back to a discussion over a dissolution of the public-private distinction in the age of digitalization. And accordingly, second: The fact that it is not that clear anymore as to what “presence and absence” in the age of digitalization appeal to, will highlight a symptom of a more profound crisis of our times, that is the question of an in-between which is according to Arendt “a condition of any social reality to appear.” So, in this way the question of privacy becomes political, which we can formulate in the following way: What kind of an in-between after the pandemic can “relate and separate us at the same time”?

### **Participants of Panel 6**

**Manuel Biertz** studied political science and public law at Trier University. Later, Manuel became a doctoral researcher at the chair for political theory and history of ideas. In his dissertation project he inquires what the forceless force of the better argument is actually made of and how it can be explicated with the help of contemporary argumentation theory. Having worked as an IT administrator and software developer, he is also an interested observer of the digital transformation of the public sphere.

**Yannik Peters** is research associate and lecturer at the Department of Media Studies, University of Bonn and in the Research Association NRW Digital Society. He graduated with distinction in Sociology, Political Science and Media Studies at the University of Bonn. In his PhD project he examines the potential of digital media for the constitution of a European Public Sphere. He tries to combine classical sociological and political theories with modern methods of the Computational Social Science like topic modeling.

**Zanan Akin** is a PhD Candidate in Philosophy at the University of Hagen, Germany / Scholarship holder of Heinrich-Böll Foundation / Title of the PhD Project: Zwischen Äquivalenz und Indifferenz: Gleich-gültigkeit als ein Gründungsprinzip der Moderne  
Research Interests: 20th century German and French Philosophy with a special focus on Martin Heidegger and Alain Badiou, German Idealism, Karl Marx, Marxism, Post-foundationalism, Ontology, History of Metaphysics.

Dr. **Martin Herbers** is the head of the Centre for Political Communication of Zeppelin Universität, Friedrichshafen. His research interests include the transformation of the public sphere through digitization and entertainment media.

## **Panel 7: CAIS fellow's panel 1 of 2: Researching Global Digital Cultures (*submitted panel*)**

Chair: Sergio Barbosa, Co-chair: Javier Toscano

The Center for Advanced Internet Studies (CAIS) in North Rhine-Westphalia promotes the active shaping of the social, political, economic, and cultural changes that digitalization brings about. The Center sees itself as a place for innovative interdisciplinary research and as a source of inspiration for a critical public that advocates for self-determined life in digital societies. Social relations are changing under the pressure of datafied infrastructures, including but not limited to social media platforms, messaging apps, geolocation services, fintech, data centers and smart cities. The strategic role of social media, for example, contributes to the evolution of action repertoires, inaugurating a new conceptualization of political participation and elections in which technology plays a dominant role. Together with other recent forms of digitization, from the far-right spectrum to progressive mobilizations across the world, this panel draws from work undertaken at CAIS to showcase the value of interdisciplinary research teams to assess the global dynamics of datafied infrastructures. Drawing from sociology, anthropology, political science, international relations, and media studies perspectives, this panel is centrally concerned with prospects for democratic self-determination. Through comparative, participatory and methodologically innovative approaches to investigate datafied infrastructures. To that end, the panel focuses on the impact of media and communications systems on civil society and other informal instances of collective action engaging with regulatory arrangements to contribute to or resist democratic developments.

### **Responding against political intolerance: Migrant reactions to the far-right threat, *Javier Toscano***

This paper analyses resistant tactics assembled during the last years by migrant-led organizations in Germany, as these have attempted to prevent the effects of hate speech and other forms of discrimination. The project examines the reaction to discriminatory materials in digital networks, as well as the oppositional strategies assembled to counter discursive uses and effects of the political approach led by far right groups as this influences both national discussions and fuels prejudices against specific migrant groups. The research collects data from different associations, especially through their social media platforms, face-to-face interviews and other archived sources. The study seeks to be a contribution for the development of a broader political theory of contemporary democracies where far right groups are active and influential, and migration plays a

defining and enriching role in society. In that sense, the paper examines a complex problem within contemporary democracies, but it also shows resourceful forms of containment and promising schemes of cultural endurance.

**Protest Mobilization on WhatsApp: Explaining Participants' Approaches Before and During COVID-19 in Brazil, Sérgio Barbosa**

Social media is used extensively for protests mobilization. However, little research revealed how protests change over time, especially on chat apps such as WhatsApp. This paper seeks to address this gap in the literature and analyses how participants on WhatsApp refer differently to protests before and during the COVID-19 pandemic in Brazil. We look at the case of #Unidos Contra o Golpe (United Against the Coup), a WhatsApp “private group” of 121 members emerged in 2016 in Brazil to oppose the controversial impeachment of the then-president Dilma Rousseff. The qualitative analysis relies on individual level messages collected through digital ethnography. The article compares the messages from 2018 and 2019 with those from 2020 and 2021. Our results show the intention to struggle for democratic change at local level, but also to articulate creative solutions to face Brazilian disarray during COVID-19 pandemic.

**Pandemic Dashboards: How Cities Craft Knowledge of Covid-19, Burcu Baykurt**

Since the Covid-19 pandemic began around the world, many cities have been scrambling to report on local data. This project comparatively examines the varying ways U.S. municipalities have collected, analyzed, and publicized Covid-19 data since April 2020. It analyzes how municipal data analytics to track the pandemic often aim to render local governments – and their governance of the pandemic – legible to the public.

## **Panel 8: The Digital Public Sphere II: Conditions and Dynamics**

Chair: Philipp Schaer

**“Digital Transformation of the Public Sphere: Platform Public(s) and Disinformation in the Pandemic”, Caja Thimm**

Recent contributions on processes of digital transformation of the public sphere (Habermas, 202) and on cultures and practices of digital participation (Thimm 2021) illustrate the massive transformation process of the public sphere, shaped by digital platforms. On the one hand, digital platforms facilitate access to publics and contain the democratic promise of bi-directional communication. On the other hand, the boundaries between individual,-group and mass communication blur, forming "mini-publics" with specific interests, members and discourse styles. In particular, the commodification of the public sphere is a significant factor in the ‘third structural transformation of the public sphere’ (Habermas). Hence, social media can be understood as infrastructures of public opinion formation, but also as a place of post-truth discourses on scientific and political facts. Rosa (2021) also sees a drifting apart of the cultural practices of communicators which can cause fragmentation and isolation. For Habermas, this results in the fundamental problem of a public sphere that is no longer inclusive, but is the cause for uncertainty and, above all, the "spreading of fake news".

In order to follow up this perspective, the paper looks at interrelation between disinformation, agitation and conspiracy narratives on Instagram by public media. Public broadcasters have been active on social media for quite some time. But particularly Instagram has seen a steep rise in

activities, as the platform has become an important digital space for news. As such, Instagram can be regarded as one of the central digital spaces for Corona related information searches.

In an empirical study based on Instagram postings from 02/2020 to 10/2021 in German speaking public media sources, we looked at the role of conspiracy and fake news related interactions. In our study we compared the activities of selected formats of the main public service outlets in Germany (ARD-Tagesschau, ZDF-heute) during the Corona crisis. The aim is to explicate the relations between misinformation, scientific information and media trust in the context of the public debate on the pandemic.

On the basis of these data we want to deepen an argument put forward by Habermas that a democratic system as a whole suffers damage when the infrastructure of the public sphere can no longer direct citizens to the relevant issues requiring decisions, and can no longer ensure the formation of competing public, and that is, qualitatively filtered, opinions. The functions and practices of journalism show themselves to be affected by these processes of change. There is agreement that the question of how to shape public discourse - or, as suggested by Thimm (2018), the formation of 'mini-publics' in context of specific media logics can be seen as a core challenge for digital democracy. This is even more true when societal crises, such as the Covid-19 pandemic, require transparent, pluralistic, informative and trustworthy discourse.

**A model of political homogeneity in online networks: Integrating original and new hypotheses,** *German Neubaum, Manuel Cargnino, Daniel Röchert, Luna Frauhammer*

“Social media fuel political homogeneity and thus the polarization and fragmentation of our society,” is the thesis of many debates that question social media as instruments serving democracy. Political homogeneity represents the degree of ideological and opinion-based similarity, i.e., the extent to which political similarity prevails between nodes in a network. While this phenomenon certainly does not have its origins in the online world, characteristics of the latter are believed to facilitate the formation of homogeneity. This contribution summarizes an extensive empirical and interdisciplinary research program addressing the origins and consequences of political homogeneity in online networks. Based on this summary, a psychological model is presented which posits that while striving for cognitive consonance fosters political homogeneity in one’s social environment, users’ deliberate creation of their network is also governed by further motives such as social support motives, attenuating the connection between deliberate selectivity and homogeneity. Thus, the explanatory value of original hypotheses related to political homogeneity is relativized by competing psychological motives and cost-benefit considerations. The model also addresses the extent to which the existence of political homogeneity can form and strengthen individual opinions, reduce political tolerance as well as lead to online and offline political participation. All these processes are studied considering the prevalence of political homogeneity and specifics of social media. Based on this model, a theoretical and empirical research program for future research is outlined.

**Digital public sphere in the Arab world,** *Sarah Kandil*

This dissertation investigates the structure of the digital public sphere in the Arab world. The first step is to define the meaning of the digital public sphere in principle. The second step is to explain in more detail its specifics in the context of the Arab world. This includes, for example, the organization of the digital public sphere, the design and development of mini-publics, regulations, the role of the state, and the comparison to western countries. The main focus is on the digitally conducted debates related to Covid-19. In this context, aspects such as vaccination, masks, freedom of expression, and the role of religion and women are assessed in more detail. The main body of this work consists of relevant tweets posted in Arabic that, for example, react to rumors regarding Covid-19 or spread opinions or (dis)information on the topic. In addition to Twitter,

TikTok is also highlighted as another medium since, in contrast to Twitter, it brings the aspect of visuality into play and often deals with the serious topic of Covid-19 in a humorous way. This approach also enables a comparison of the platforms.

### **Participants of Panel 8**

**German Neubaum** is an Assistant Professor of Media Psychology and Education at the University of Duisburg-Essen.

**Manuel Cargnino** is a postdoctoral research associate in the Junior Research Group “Digital Citizenship in Network Technologies (DICINT)” at the University of Duisburg-Essen.

**Luna Frauhammer** is a doctoral student and joined DICINT in 2021.

**Daniel Röchert** has been a member of and graduated in the group DICINT.

**Sarah Kandil** completed her bachelor's degree (Oct 2012 – Feb 2017) in the four years program Applied Business Languages and International Management at the City University of Applied Sciences in Bremen. Her main focus was on the Arabic language and marketing. During her studies, she worked for two years as a tutor. In the 5th and 6th semesters of her bachelor's degree, she spent a year abroad in Egypt. This consisted of a semester at Misr International University (Arabic and elective Advertising & Promotion course) and a five-month internship at an advertising agency in Cairo. After graduating (bachelor thesis: Characteristics of the Syrian working life and possible effects on integration into the German labor market. - An interview study with Syrian refugees with an academic background) she then decided to do a master's degree (Oct 2017 – Sep 2019) at the University of Bonn in the program Asian Studies – German Arabic Translation (master thesis: Social media as a platform for the protests at the beginning of the Arab Spring using Egypt as an example). After completing her master's degree (overall grade: 1.0; excellent), she took the opportunity to work as a contract lecturer for Arabic at the Institute for Oriental and Asian Studies at the University of Bonn in the winter semester of 2019/20. From April 2020 to March 2022, she then worked as a university lecturer for Arabic for the Bachelor's degree and Master's program at the same institute. The introduction of e-learning was also one of her main tasks. In March 2021, she was a guest lecturer on the topic The impact of social media on modern society at Mersin University in Turkey. Since May 2022, Sarah Kandil has been doing her Ph.D. in media studies at the University of Bonn on the topic Digital public sphere in the Arab world.

## **Panel 9: CAIS fellow's panel 2 of 2: Researching Global Digital Cultures**

Chair: Sergio Barbosa, Co-chair: Javier Toscano

**Embodying the Local: Assam's Growing YouTubers and Shifting Media Infrastructures, *Sagorika Singha***

YouTube has increasingly been recognised as the “Google for those less comfortable with English” and India constitutes its largest subscriber base, with over 225 million users. Concurrently growing is the number of local “influencers” have generated repercussions in the larger imagination of YouTube. Using an online ethnography of Assamese YouTubers and channels from 2016 until recently, I argue that local online content and media creators challenge an interesting transition of the global form to the local. This phenomenon unveils the interplay among media infrastructures, local creative industries, media materialities and transnational/national geographies. This project captures the transformation of the texture of the content that populates platforms such as YouTube with the entry of the regional content creators. In the process, it demonstrates the emancipation of the local configuration in the platform's development. In this case, the existing media infrastructure and platform find the everyday turned into a spectacle.

**FinTech and Neocolonialism in Africa, *Scott Timcke***

Development agencies, philanthropists, and multinational corporations typically forecast that FinTech will be central to African financial inclusion in the global economy. The 2008 World Bank Annual Report, ‘Finance for All’ is one early marker that this global challenge can be addressed through ‘increasing connectivity’; that FinTech can help the ‘unbanked’. Indeed, inclusion is vital given the enduring legacy of neoliberal development. I assess the prospects of these laudable goals by assessing whether FinTech perpetuates neocolonial tendencies through their credit extending and reporting apparatuses as these technical affordances are shaped by algorithmic capitalism. By complementing existing financial platform studies, I aim to see whether a ‘digital-creditor-debtor-divide’ may arise in sub-Saharan Africa. If so, what steps could be implemented to diminish this prospect? And what kinds of national and international regulations are required to ensure FinTech can aid equitable industrialization in Africa?

**The Political Economy of Google's Global Data Centers, *Janna Huang***

Data centers are the fundamental infrastructure of cloud computing, requiring considerable economic and energy resources to store the herculean amount of data that makes digital life possible today. If data is the lifeblood of the digital economy and social transformation, large-scale global data centers are the physical infrastructure of the digital “cloud.” My research breaks the cloud out of its black box to reveal the economic, social, and legal arrangements underlying the relationship between the data owned by the world's preeminent multinational Internet corporation (Google) and the local communities that host extractive global data centers. This work draws on fieldwork that investigates the socioeconomic relationships between Google and four local host communities: 1) Dublin, Ireland; 2) Mons-St. Ghislain, Belgium; 3) Eemshaven and Middenmeer, Netherlands; 4) Hamina, Finland. Specifically, through site visits, in-depth semi-structured interviews with community leaders, stakeholders, and Google employees, and analysis of relevant legal documents and policies that make the data center possible, this work aims to develop a comparative understanding of the mechanisms that global technology corporations leverage to extract political, economic, and ecological concessions and resources from the sites where data is stored around the world.

## Panel 10: The Digital Public Sphere III: Strengthening Public Discourse

Chair: Jan-Philipp Kluck

### **Truth and the spirit of inquiry - finding common ground in the online public sphere, *Michael Davis***

The paper draws on empirical studies to establish a picture of the epistemic environment in the contemporary public sphere. We use this data to explore how the problems of online information disorder implicate a broader degradation of the public sphere even beyond that imagined by Habermas (1996). While malicious actors and engagement-promoting algorithms play a role, they do so within a degraded public sphere largely indifferent to objectivity and other epistemic virtues (Cover et al., 2022).

The paper then seeks to develop a theoretical framework for understanding the contemporary public sphere. From pragmatist philosopher C.S. Peirce's work on regulative ideals (1903) we see how establishing a common epistemic purpose amongst a community forms a basis for the progressive evolution of empirically tested principles of inquiry. In truth-oriented communities such as science, a solidarity of purpose leads to the evolution of truth-promoting practices. In other communities, such as social media, truth plays a weaker role.

We then ask where intervention might best be exercised to promote truth-oriented discourse. The paper will argue that, perhaps paradoxically, reorienting the focus of our concern and interventions away from truth towards other ethico-epistemic principles such as civility, reasonableness and humility may in fact be truth-promoting. The paper then explores how this approach may help navigate the difficulty of balancing interventions with freedom of speech and other fundamental democratic principles.

### **Effects of empowerment moderation in online discussions: A field experiment with four news outlets, *Dominique Heinbach, Marc Ziegele, Anke Stoll***

User comments on journalistic content have become an integral part of political discourse. However, their quality is often low and handling uncivil comments dominates social and political debate as well as research agendas. A promising approach to countering incivility in comment sections and improving their quality is community moderation. However, there is evidence that the effectiveness of such moderation heavily depends on the moderation style. Currently, many newsrooms focus on so-called regulative moderation of uncivil comments while neglecting to empower constructive and respectful contributions. This leaves unused a significant potential for sustainably increasing the quality of online discussions. Therefore, we developed the concept of empowerment moderation. Based on the uses and gratifications approach and following previous research, we argue that users participate in online discussions to satisfy cognitive, affective, and social-integrative needs. To address these needs through moderation, we draw on the socio-psychological concept of social support. Our moderation concept goes beyond the function of social support as a psychosocial resource of individuals and extends it to a collective resource with a public-democratic function to foster healthy online communities and a democratically valuable public discourse. In a large-scale field experiment on the Facebook pages of four news outlets, we tested the effects of three empowering moderation styles on the perceived and actual quality of online discussions. For this purpose, we chose a multi-method approach: First, we conducted a multi-wave survey of the Facebook communities of the collaborating newsrooms before, during, and after the implementation of the moderation styles (n = 4,380 participants). Second, we quantitatively content-analyzed more than 13,000 comments that the users of the news outlets posted before and during the field experiment. To identify, whether comments include forms of incivility or deliberative quality, we applied both manual and automated measurement. Results show that all three empowerment styles decreased the perceived incivility and increased the perceived quality of the discussions, the perceived social support, and users' sense of

community. Results of the content analysis show that only the social-integrative style reduced the actual incivility of the discussions, while all three styles positively affected their deliberative quality in terms of rationality and constructiveness.

**Agenda Cutting versus News Diversity. How Topics Disappear from the Media Agenda and how this Affect the Digital Democracy, Jörg-Uwe Nieland, Hektor Haarkötter, Filiz Kalmuk**

This article presents the concept of agenda cutting (A.C.) as an urgent research desideratum and makes a first comprehensive attempt at conceptualizing it on the basis of theoretical considerations and empirical studies. A.C. is analyzed as a political and ideological non- thematization or depublication processes. Anyone who thinks about the neglect of topics will quickly come across the communication science concept of "agenda setting". The inverse term agenda cutting, however, has not been systematically elaborated in the same way (Colistra 2012).

Empirical studies have come to the following conclusions:

- A survey of 50 journalists in the Rhineland revealed how A.C. processes and dethematization take place in newsrooms (Haarkötter/Kalmuk 2021). Accordingly, the mechanisms often appear difficult to predict to the editors. The so-called garbage can model from organizational theory can be used to explain this.
- Extensive research on news geography shows that, in addition to news centers and the news periphery, there is also a 'news nirvana' from which events have no chance of becoming topics. The structural causes for this neglect of news lie historically in colonialism, but currently also in the exploitation interests of media companies, whose media logic is an ownership logic: "Cutting the Agenda" as "Cutting Africa".
- As a professional routine, A.C. is now part of the training and everyday life of the public relations industry. The instruments of PR-induced agenda-cutting include "spinning," explicit "false reports"/"lies" and the reduction of information to obligatory information. PR as interest-led communication in turn follows the interests that are shaped by ownership in the economic system.
- The Initiative Nachrichtenaufklärung e.V. has been publishing a top ten list of neglected topics for more than 20 years and stimulates research on neglect, agenda cutting as well as censorship. Here the influence of media ownership on agenda setting as well as agenda cutting has been highlighted in particular.

**Participants of Panel 10**

Prof. Dr. **Hektor Haarkötter** teaches communication science with a focus on political communication at the Bonn-Rhein-Sieg University of Applied Sciences in Sankt Augustin. Previously, he worked as a journalist and TV director, primarily for public broadcasters and Arte. He researches online communication, current disinformation and fake news, media ethics and narrative theory. He also serves as executive chairman of the Initiative Nachrichtenaufklärung (INA) e.V., which publishes the Top Ten of Forgotten News every year. Most recently, he published a major study on the theory and history of the notetaking (Notizzettel. Denken und Schreiben im 21. Jahrhundert, i.e.: Notes. Thinking and Writing in the 21st Century. Frankfurt am Main. S. Fischer Science).

Dr. phil. **Jörg-Uwe Nieland** studied Political Science (with History, Philosophy and Sports Science as minor subjects) at the Universities of Duisburg, Bochum and Berlin; completed his doctorate in 2006 at the University of Duisburg-Essen; since 2019 he is academic assistant / senior researcher in Communication Science at the Zeppelin University Friedrichshafen; 2009 to 2016 Institute for Communication and Media Research, since 2016 associated at the Institute for European Sport Development and Leisure Research at the German Sport University Cologne;.



Since 2014 co-leader and head of the group "Media Sports and Sports Communication" in the DGPUK; board member of the Initiative Nachrichtenaufklärung e.V.

**Filiz Kalmuk** is a research assistant with focus on Communication Science at the Bonn-Rhine-Sieg University of Applied Sciences.

**Michael Davis** is a research fellow at the Centre for Media Transition at the University of Technology of Sydney. Michael has taught philosophy and sociocultural studies at the ANU and at Universidad de los Andes in Bogota, Colombia, and currently teaches media ethics and law at the University of Sydney. He is working on applying ideas from philosophical pragmatism to improve our understanding of the public sphere and develop effective responses to misinformation. He previously worked in the disinformation taskforce at the Australian Communications and Media Authority, and also spent five years in the museum sector working as a researcher and curator for exhibitions and other cultural projects.

## Panel 11: Digital Democracy and Youth

Chair: Nils Frederik Tolksdorf

### **Can you tell your societal from your individual concerns? Appraisal of data collection harms to individuals and democracy among young Europeans, *Emilija Gagrčin, Nadja Schaetz, Roland Toth, Martin Emmer***

Social media platforms' (SMP) business model is grounded in the commodification of user data, and scholars have argued that practices of commodification jeopardize autonomous will formation and democratic freedoms. Moreover, some propose that consequences reach beyond the sum of individual interests, and argue for distinguishing between a) individual harms resulting from data abuse to b) societal and democratic harms that may result from abuse of aggregate data (Smuha, 2021).

To test this distinction, we analyzed the extent to which young people across Europe (DE, IT, GR, PL, SWE, FR, n/country=500) express concerns related to a) individual and b) democratic harms stemming from data collection by SMP.

Young people are a suitable population to study: SMPs are central spaces where they engage in political communication, thus providing a rich source of data. Second, though the current generation of youth has been socialized into datafication practices (Swart, 2021), they have also grown up in times of heightened public attention for the perils thereof.

We find that perceptions of 1) individual harm and 2) harm to democracy are empirically distinct constructs. While we find no effects for gender, higher digital literacy is related to heightened perceptions of harm to democracy but notably not for individuals. At the same time, social class is negatively related to harm perceptions to the individual and to democracy.

We underscore the shortcomings of theoretical and regulatory frameworks premised on liberal democratic approach and discuss implications for social inequity and data literacy.

### **The understanding of social media business and operational logics among young people, *Sirkku Kotilainen, Guna Spurava***

Algorithm-driven social media platforms are among the dominant channels for publicly available information nowadays (Carlsson, 2019). Prior research has shown that users of these platforms often are not aware of the business and operational logics behind the platforms and of the algorithmic biases on information they encounter (Cotter & Reisdorf, 2020; Hobbs, 2020). In our study, we examined how familiar young people are with social media tracking, datafication, and commercialization practices in relation to their news consumption. Data were gathered in the frame of ySKILLS research project (<https://yskills.eu/>) in late 2021 and early 2022: in three European countries (Belgium, Czech Republic, Finland) focus group interviews with young people aged 12 to 15 were conducted.

The findings revealed that majority of participants had at least a basic understanding of social media logics. According to the results, youngsters are becoming familiar with tracking and commercialization practices through a "learning by doing" approach based on their everyday experiences and their own observations made in a digital environment. Having spent much time on social media platforms, teenagers well recognize the connection between their "digital footprints", tracking and the advertisements displayed to them. However, young people still have a very vague awareness of algorithmic recommendation and personalization in social media for non-advertising content, particularly for news. Data analyses suggest that their understanding in this area is rather technical and not critical; this indicates the need for new approaches to media education, which would promote not just content-related but also digital infrastructure-related media literacy.

### **Vlogs as a voice in public debate – youth audience's civic competences, *Agnieszka Kampka***

The quality of digital democracy depends on citizens' ability to participate in public debate using technological tools and forms of expression not previously associated with political activism. This paper presents the results of a qualitative study of the rhetorical and civic competences of viewers of socio-political vlogs. YouTube is treated as a digital public sphere and commentary vlogs as a voice in public debate. In the Digital Age, civic participation takes various digital forms. However, digital democracy is still based on critical thinking, rational argumentation and deliberation. Regarding rhetorical citizenship (Kock & Villadsen 2014), some elements of the online public debate need to be analysed. Do young audiences recognise argumentation and persuasion in entertainment genres (Johansson 2017)? How do they assess the sender's credibility? What is the importance of visual rhetorical literacy and its relation with community construction or deepening polarisation (Molek-Kozakowska & Kampka 2021)? Young people know that the popularity of messages results from algorithms. They are good at recognising direct persuasion but worse at recognising indirect influences on audiences, such as by criticising or ridiculing the people and events being commented on.

### **Participants of Panel 11**

**Emilija Gagrčin** (M.A., Free University of Berlin) is a doctoral student at the Free University of Berlin and a research associate at the Weizenbaum Institute for the Networked Society. Her research interests include political communication and social and normative aspects of citizenship in digital environments.

**Nadja Schaetz** (M.A, Stockholm University) is a doctoral student at the University of Hamburg, where she does research on journalism under datafication, with a focus on communicative dimensions of inequality. She is interested in the social and political implications of datafication and AI.

**Roland Toth** (M.A., University of Hohenheim) is a doctoral student at the Free University of Berlin and works as a scientific officer at the Weizenbaum Institute for the Networked Society. His research focus lies on the conceptualization and measurement of mobile media use.

**Sirkku Kotilainen** is acting as professor at Faculty of Information Technology and Communication ITC, Tampere University (0000-0002-0584-8305 ORCID). She is involved in two projects focusing on information disorder, namely ySkills (RIA) and Fact-checking project (ERASMUS+). Her main profile is on digital media literacy and youth engagement online including their understanding of algorithm-based communication. Total number of her publications is app. 80 including eight (8) books. The latest book is a co-edited anthology: Frau-Meigs, D., Kotilainen, S., Pathak-Shelat, S., Hoehsmann, M., Poyntz, S. R. (eds.) (2020) *The Handbook of Media Education Research*, Wiley-Blackwell.

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**Guna Spurava** is researcher at Faculty of Information Technology and Communication, Tampere University. She is currently working on multidisciplinary research project ALL-YOUTH: All youth want to rule their world which explores the capacities of young people (aged between 16 and 25) and the obstacles that hamper their engagement with society. She is involved also in European ySKILLS research project focusing on young people's digital literacy and their capacities to cope with information disorder. Among her current academic interests are infrastructure related digital media literacy and platform awareness as significant part of it.

## **Panel 12: Big Data & AI as Structural Challenges to Democracy**

Chair: Stephanie Schiedermaier

The increasing use and rapid improvement of AI-based technologies, especially machine learning, and the ever-rising amount of usable data cause various structural challenges to democracy. In this panel, we will expose and discuss five of these challenges, which might appear to be only loosely connected but which are deeply interrelated. The “digital age” is commonly perceived as a game-changer for society, and we seek to understand where and how these changes appear. Adapting people, institutions, and society to the new reality is key for preserving democratic systems. The processes of digitalization, especially the development and deployment of data-driven, automated decision mechanisms as found in some AI-based systems, are shaped by human preferences, and thus by human preconceptions, which can be problematic. These problems are not easily

overcome. By looking at the relation of digital technologies to democracy from various perspectives, we show the complexity of the challenges these technologies can cause: democratization and politization of algorithms will be taken into consideration with respect to participative technology development; a strengthening of the democratic system under the condition of the digital sphere as well as with respect to the need for a politization of algorithms. With further papers on the journalistic practices responding to algorithmic content curation and the automated content moderation as a challenge to fundamental rights, we line out the intricate relation of democracy and digital technologies.

We will not offer simple solutions to these problems but show that democracy as an ancient social technology can relate productively to digital technologies if the technological condition is taken seriously. The proposed panel deals with fundamental requirements for technologically advanced democratic societies. It contributes to the conference's subtopics

“Ethics for the Digital Age,” “Digital Practices of Participation and Formation of Political Will,” and “Theories of Democracy and Digitalization.”

### **Democratizing Algorithms? An Assessment of a Potentially Dangerous Endeavor, *Hermann Diebel-Fischer***

As technological progress pushes our society further into the digital age, more concerns are voiced towards its algorithmization. A democratization of the development of such algorithmic systems is regarded as a remedy to problems such as unwanted biases. However, as Himmelreich pointed out, an understanding of democratizing such systems in terms of increased participation is not helpful, as this will be excluding (only those with appropriate resources and knowledge will take part) and inefficient: It not only creates governmental redundancies, also democratic processes do not guarantee that a desired outcome will be reached. Himmelreich's analysis can be supplemented with two concerns: (1) Calling for a democratization of systems and their development demands a broad education regarding technology and its consequences, i.e., there needs to be an awareness for the importance of how such technologies are built, how they work, and which (unintended) effects they might have. (2) Democratizing such systems can add a new meaning to 'digital democracy': It implies that the employment of digital systems has already been agreed on and only their details are to be decided. This silent victory of such systems creates further dependencies which can narrow future decision corridors, ultimately rendering all aspects of life digital, including democracy. Technology in general and algorithm-based digital technologies are not ends in themselves – rather, they should be understood as means: Means which are options and which in some cases should not be employed avoided. Better education about technology, its opportunities and its limits, will safeguard democracy in the digital age.

### **Digital Transformations of Democracy: Requirements for Successful Problem Solving, *Jan-Philipp Kruse***

Digital transformations of society in general, and of its democratic regulation in particular, are being intensively researched. With the “digital constellation”, a concept has already been developed that emancipates itself from a narrow view – for example, on voting procedures or electoral machines. Instead, it discusses factors for the future shaping of democracy.

With my approach, I would like to propose going one conceptual step further. A socio-philosophical view of digitalizing democracy can focus even more on the consequences of digital transformations for the functioning of democratic self-regulation. In other words, it is about which development paths make a successful further development of democratic practices likely, and which do not. Strengthening and preserving democracies in the digital age is thus in the foreground. In doing so, the perspective is directed toward the relationship between democratic resources (such as lifeworld communication, faculty of judgment, a certain 'good will') and their deployment in the digital constellation in a fundamental way, ultimately revolving around the solution of shared problems. Thus, the extent to which such resources can be maintained or developed has a significant impact on the capacity of democratic governance to deal with problems. The multitude of recent crises, as well as the

systemic competition with China and other nondemocratic regimes, underlines how central this dimension is in the further development of democratic societies. Against this background, the presentation will discuss criteria for the successful democratic management of problems.

### **Algorithmic Decision Making and What it Means for Democracy, *Philipp Buchallik***

Algorithms, understood as fixed set of rules for problem solving and/or decision making, are political in more than one sense. Often seen as objective and fair process of decision making, I want to elaborate on the pitfalls of perceiving algorithms as objective in a substantive way. Algorithms are as good as they are programmed and as the data they use. Modern dynamic and adaptive algorithms, i.e., self-learning or evolutionary algorithms, more than already normal algorithms, raise problems of transparency and traceability even to specialized users let alone for the average applier and algorithms are blind to the individual case.

These observations result in problems for democratic societies and in the need of politicizing algorithms or rather recognize them as what they are, genuinely political. The choice of code and data base includes always bias, which is often reproduced or even increased by more sophisticated algorithms. Algorithms are lacking the capability of creating new initiatives in themselves as their bound to programmed paths while initiative and alternatives are basic to democracy. Finally, algorithms are good in processing enormous amounts of data but lack the democratically vital view on the individual case and are thus problematic when it comes to proportionality and adequacy. When aiming to preserve substantive democracy, politicizing algorithms is inevitable because the politics of algorithms is unpolitical in itself due to the lack of initiative and possibilities of decisions algorithms have.

### **Adaption to algorithmic curation—a threat for the democratic value of journalism? A Systematic Literature Review on Journalistic Content Produced for Social Media Platforms, *Luise Anter***

Social media platforms (SMP) are increasingly important for the accessibility and distribution of journalistic content. Especially younger audiences often use these platforms as their main outlet for news. However, this platformization of journalism led to a power shift where platform intermediaries such as Facebook or Twitter influence or even decide “what format and type of journalism flourishes” (Bell & Owen, 2017). This led researchers to, more or less candidly, ask whether journalists publish only ‘catcontent’ on Instagram, Facebook and Co.—that is, adapt to the (perceived) social media logic and focus on light and entertaining content, communicated in a more subjective manner (e.g. Lamot, 2021). On SMP, journalism would thus neglect its democratic functions as information intermediary and critical observer of society. Against this backdrop, a plethora of research deals with journalistic content produced for SMP. However, using a variety of theoretical and methodological lenses and often resulting in different outcomes, these studies lack synthesis. To tackle this research gap, we conduct a systematic literature review of n=169 studies. Integrating scoping and content review, the study will not only show how (democratically concerning) journalists produce content for SMP, but also shed light on study-level and different journalistic influence factors, such as media system, media genre and journalistic role concept.

### **Endangering Democratic Debate? A Fundamental Rights Analysis of Automated Content Moderation in Social Media, *Lisa Wiese, Johannes Weil***

Elon Musk's planned takeover of Twitter, in which he claims he would strengthen freedom of expression, once again triggered a debate about the moderation practices and the power over democratic debate of dominant social networks. The European Union responded to this problem area at the end of 2021 with the draft Digital Services Act (DSA-D), which provides for comprehensive regulation of the online platforms, including an unprecedented obligation to respect the fundamental rights of their users in content moderation.

To enforce their communication rules, service providers resort to instruments such as deleting, labeling, and reducing the reach of undesirable content, or even blocking user accounts. To manage the sheer volume of content, this increasingly involves automated solutions that use algorithms and AI methods to detect or even directly moderate relevant posts. While these techniques offer an efficient and cost-effective approach for tackling harmful content, the extensive filtering of online posts and the systems' considerable error rates can threaten freedom of expression at large scale. Starting from the normative framework of the DSA-D, this study reviews the use of the different moderation tools from a fundamental rights perspective, which requires balancing the conflicting interests in the multipolar structure of social networks. As the underlying legal relationship is one between private actors who are in principle of equal rank, this raises the central question of how strongly network providers can be bound by the fundamental rights of their users in order to ensure democratic debate.

## Participants of Panel 12

**Jan-Philipp Kruse** studied philosophy, psychology, cultural studies and aesthetics. Scholarship of Studienstiftung des dt. Volkes, M.A. with honors, PhD summa cum laude. His research interests encompass social and political philosophy, the logics of transformation (also with a view to ecological crisis), and digitalization of public spheres and society in general. Important publication: *Semantische Krisen. Urteilen und Erfahrung in der Gesellschaft ungelöster Probleme (Velbrück Wissenschaft 2022)*.

**Philipp Buchallik** studied social sciences and law (B.A. Staatswissenschaften) at University of Erfurt and at University College Maastricht (UCM) with an interdisciplinary focus on politics and law. He graduated in the master program “Politics and Constitution” at TU Dresden. From 2017 to –2021, he was research associate at Collaborative Research Centre 1285 “Invectivity. Constellations and Dynamics of Disparagement” at TU Dresden. Since December 2021, he is research associate at ScaDS.AI Dresden/Leipzig at TU Dresden. His research and PhD-Project focuses on the challenges of invective constellations for freedom of speech on digital platforms, disparagement and the digital constellation and its problems for democracy. Important publication: *together with Benjamin Behschnitt (2019): Die Zentrale Beschwerdestelle der sächsischen Polizei im Kontext des polizeilichen Beschwerdemanagements der anderen Länder (with Benjamin Behschnitt, Jahrbuch Öffentliche Sicherheit 2018/19, 393-413)*.

**Luise Anter** completed her studies in political science (Bachelor) and journalism (Master) and is now researcher and PhD student at the Institute of Media and Communication at TU Dresden. In her dissertation, she explores how the characteristics of social media platforms shape journalistic production processes. Other research interests include the use of online news, especially in social media environments, and news bias. Important publications: *What Does “Being Informed” Mean? Assessing Social Media Users’ Self-Concepts of Informedness (with Anna Sophie Kümpel and Julian Unkel, Media & Communication 10/3)*, *Mein Text, meine Meinung, meine Wissenschaftlerin? Eine qualitative Untersuchung zur Nutzung von Wissenschaftler\*innen als opportune Zeugen (M&K 69/3)*.

**Lisa Wiese** is a Law Graduate of Leipzig University with a major in International and European Law. She studied abroad at Miami Law School (USA) and at Brawijaya University in Malang (Indonesia). She completed her legal clerkship at the Ministry of the Interior of the Federal State of Saxony in the cyber security department and at Heskia Hakmun Law Firm in Tel Aviv (Israel) handling discrimination cases. Currently, she works as a research

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**Johannes Weil** does his doctorate on the regulation of hate speech from a fundamental rights perspective, with a focus on the use of AI for filtering online content. He studied law with a major in International and European Law at Leipzig University, the University of California, Berkeley (USA) and the University of Bologna (Italy). He received a scholarship from the Friedrich Ebert Foundation. His research interests include European, Constitutional and Human Rights Law, especially issues of freedom of expression, data protection and IT law. He is a researcher and PhD student at ScaDS.AI Dresden/Leipzig at Leipzig University. Important Publications: *Die Strafbarkeit antireligiöser Rede in der Judikatur des EGMR (with Lukas Claes, Europäische Grundrechte Zeitschrift 48/21-23)*, *Online-Intermediäre als Träger der Meinungsfreiheit (with Stephanie Schiedermaier, Die Öffentliche Verwaltung 75/8)*.

**Stephanie Schiedermaier**, Prof. Dr. iur., has been professor of European, International and Public Law at Leipzig University since 2014. She received her doctorate as well as her habilitation at Johannes Gutenberg-University Mainz. In her academic teaching and research, Professor Schiedermaier focuses on Public Law as part of multilevel governance, International and European Media and Data Protection Law as well as International and European Human Rights Law, including legal issues related to artificial intelligence. Research stays took her to Yale Law School and Monash University (Melbourne). Professor Schiedermaier is a member of the Commission for the determination of the financial needs of public service broadcasters in Germany (KEF), the editorial board of the *European Review of Digital Administration & Law* and the *Leipziger Schriften zum Völkerrecht, Europarecht und ausländischen öffentlichen Recht*. Important publications: *Der Schutz des Privaten als internationales Grundrecht (Tübingen 2012)*, *The Right to be Forgotten in the Light of the Google Spain Judgment of the European Court of Justice (Information and Law in Transition, Stockholm 2015, 284-299)*, *Medien und Datenschutz in Deutschland (Datenschutz im Rechtsvergleich, Wien 2019, 165-179)*.

## Panel 13: Digital Democracy and Participation in the Platform Economy

Chair: Marike Bormann

**Typologies of Political Online Participation – Illustrative Snapshots or Substantial Research Strategy?**, *Martin Emmer, Christian Strippel, Pablo Porten-Cheé, Roland Toth*

When attempting to understand complex patterns of behavior in a field where only limited theoretical models are available, social scientists often use the typology method to identify dimensions and structure data. This is the case particularly in emerging research fields such as political online participation. Here, the past twenty years have produced a broad set of participation typologies (most recent: Jeroense & Spierings, 2022). Although there are standard methods such as cluster analysis, LCA and multidimensional scaling, scholars also use qualitative methods and often very different variables, which makes their findings not easily comparable to others' works. Many also characterize their work as being just

exploratory or descriptive – even if the approach would allow to use typologies as an independent epistemic strategy or include them into explanatory models (Liska, 1974). Thus, we argue that the opportunities to understand political online participation based on typologies of citizens are not exhausted by far. We ask two questions: How generalizable are the types of political online participation from 20 years of research? And, what epistemological power does the typology method have for political participation research? We conducted a keyword-based literature review of sources accessible via Web of Science and Google Scholar. We analyzed 28 political (online) participation typologies and found a strong overlap of most categories, while a stronger focus on special variables results in more specific types. Analyzing the whole picture, the typology method can provide much more valid insights as the single approaches suggest.

### **Re-conceptualising the design of digital democracy, *Gianluca Sgueo, Gianluca Misuraca***

The paper aims at investigating the existing correlations between consumer technology's design and the format commonly adopted by public administrations within digitalized spaces for public consultation and participation. The paper suggests that, in spite of key differences in the target and the objectives, digital democratic are often designed after (and inspired by) consumer technology. This is problematic in two respects. First: it moves democratic decision-making further away from citizens' expectations; second, it exposes public sector's digital democracy initiatives to higher risks of failure, and therefore fuels

discontent among citizens. The proposed paper will be divided in two parts. The first part focuses on comparing the designs of consumer technology and digital public services. The former is designed to provide swift responses to users' demands, via simplified interactions. Instant-gratification of needs becomes the key yardstick for assessing customers' satisfaction. By contrast, digital interactions between public administrations and citizens should stay necessarily inclusive (while technology can be, and often is, exclusive), unavoidably durable (technology instead plans its obsolescence) and possibly reliable (consumers have the possibility to opt out in favor of cheaper alternatives, citizens don't). We suggest that designing digital democracy initiatives primarily after timeliness and simplicity encourages a paradoxical outcome: citizens are less (not more) willing to interact with governments. The overlap between the consumer' and the citizen's persona encourages expectations that digitalized public spaces are unable to fulfill. Furthermore, it oversimplifies the idea of digital democracy, by suggesting that decision-makers should always deliver rapid and effective responses to complex issues. The conclusive part of the paper will explore options that could help to re-imagine the design of digital democracy. Viable solutions include the following three: first, a different framing (focused on the interactions, not the outcomes, of public consultations); second, a more intense use of creative approaches to digitalized democratic initiatives (game-design elements, for instance); third, a storytelling of digital democracy that stresses its belonging to a complex and stratified democratic decision-making.

### **"Economic Dimensions of Democratisation in the Platform Economy", *Katjo Buissink***

The challenge of democratising digital platforms is two-fold: there is need for increased political democracy given their importance to communication, governance, and civil society; and a need for economic democracy in a sector lacking trade unions or co-determination. This latter deficit is due to their reliance on 'digital prosumption' (Sevignani 2019) combining production and consumption without formal employment relations. Their structure suggests that traditional forms of workplace democracy such as co-determination and works councils may be unsuitable for the platform economy. What alternative exists for digital economic democracy?

In this paper, I argue that while democratisation of platforms cannot easily occur through traditional co-determination, this instead can occur through a shift from firms to a cooperative network structure of peer production (Benkler 2017) run democratically by prosumers. This broader



view of economic democratisation of platforms draws upon the legal and economic sociology of Karl Renner (2016, 428), viewing economic democracy as a 'free, purely societal-based' democracy free from state involvement. Transformation focused on this right to free association could democratise the platform economy leading to greater transparency and empowerment for end-users while preserving the positives of its market basis and flexibility.

**Digital Participatory Urban Development: The Architecture of Digital Tools and Idealizations of City-Making**, *Simone Tappert, Aline Suter*

The exponential progress of technologies is currently leading a surge of innovation in participatory urban development processes. The development of digital tools is often driven by an overarching vision: digital technologies, with the goal of centering people and their needs, enable equal opportunity participation for all and lead to more democratic, inclusive, and resource-efficient processes in urban communities. Based on a scoping review, we discuss the role of ICT as a new actor in participatory urban development, what idealizations of city-making and participation are inscribed in the architecture of digital tools and what impact this might have on practices of participation. Whilst ICT developers aim to overcome existing pitfalls of participatory processes and to disrupt top-down approaches in order to democratize planning processes, the tools are mainly applied within formal planning processes initiated by city governments. The tool architecture marks a shift from project-based approaches to the concept of one tool for all with a modular structure that can be adapted for each project. Also, it is programmed to enhance collaboration with the superior aim of reaching consensus which may restrain conflictive negotiations within participatory processes.

**Participants of Panel 13**

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## **Panel 14: Social Media as Digital Arenas and Home for “Alternative Facts”**

Chair: Mario Anastasiadis

### **Emergence and negotiation of the incivil concept CoStaPo in a reactive telegram group, Maximilian Krug**

Incivility becomes a problem in heated online political discussions when users post comments that are dysfunctional for democracy, exclude others, or incite violence (Coe et al. 2014). Such incivil acts threaten a democratic society because they affect both the targeted individuals and the readers of the post, who are led to express themselves in an incivil manner (Gervais 2015). Particularly on Telegram, this process can lead to a mutual radicalization when users form groups that take reactive positions on COVID-19 protections. In these groups, terms are constructed that members can use to align their incivil beliefs. Exemplary, this paper examines how the operators of the Telegram group Free Saxony develop the term "CoStaPo" ('Corona State Police') as an act of resistance. The dataset includes all 2202 posts from this group in 2021 and 9,000 coded comments. The analysis uses a mixture of quantitative (time series analysis and n-gram analysis) and qualitative methods (content analysis). Thereby, it is possible to trace both the emergence of the term and the negotiation of the incivil categories by the members. The paper shows that anti-democratic attitudes are process-bound and interactively negotiated. Thus, it contributes to radicalization research by providing clues about radicalization in Germany in the wake of the pandemic.

### **Incivility in Online Public Discussions, Marike Bormann, Jan Philipp Kluck, Gerhard Vowe, Nicole Krämer**

At the very heart of political participation is often seen public debate, in which citizens discuss various political issues, express their opinions, and learn about other views (e.g., Gastil, 2008). In this sense, the emergence of online discussions on social media, on the websites of news media, and other online platforms has raised several democratic hopes. However, in recent years, concerns have been raised about the quality of online discussions as incivility seems to be increasing (e.g., Boatright, 2019) challenging the potential of digital communication for democracy. Though, the actual consequences of incivility are difficult to assess as incivility can manifest in various forms. Moreover, to have negative consequences, incivility must be perceived as such by its recipients. Nevertheless, so far, research has usually approached incivility from a prescriptive perspective

leading to the neglect of recipients' assessment. Therefore, our interdisciplinary research project aimed at finding ways to systematize incivility comprehensively and differentially, and to study incivility on a perceptual level. We provided (1) a theoretically well-founded and empirically validated systematization of incivility in public online discussions and (2) an approach to examine incivility from the perspective of social perception. Besides the main findings of our project, implications for research and practice will be discussed in the presentation.

**Risk communication as a risk to democracy. The case of radon gas, *Berta García Orosa, José Luis Capón García, Tania Forja***

The scenes of people compulsively buying toilet paper, companies selling bunkers or iodine tablets to protect themselves from a possible nuclear attack are symptoms of a society that has changed. We are immersed in a culture of risk in which communication plays a fundamental role in hiding, spreading or creating non-existent risks with clear consequences for the fourth wave of cyberdemocracy (eco-cameras, Artificial Intelligence...).

This research is the first comprehensive study of risk communication in European democratic systems since COVID 19. The theoretical framework is based on: conceptualization risk society and risk communication (Dryhurst et al., 2020), Social amplification risk framework, Risk amplification through media spread, Agenda Setting and Framing.

The main objective of the research is to study the effect of risk communication on democracy through an international case study.

The methodology used: literature review (160 references from WOS/Scopus), in-depth interviews, surveys with the population and content and social network analysis.

The results make it possible to verify the manipulation of risk perception by the different political actors and to identify future challenges to safeguard democracy.

Funded by Nuclear Safety Council

**Hostile Social Media Effect of Cancel Culture on Partisan Support for Anti-LGBTQ Censorship Legislation in the United States, *Joon Soo Lim***

As the political ramifications of the weaponization of cancel culture, a series of bills aiming to censor dialogue and discussion on race, gender identity, sexual orientation, and discrimination in schools and workplaces have been signed into laws in Florida and gaining steam across other US red states. Moreover, Republican politicians in Georgia, Texas, and Florida also sought retribution against the companies that do not share their values on social issues or so-called “woke” corporations. Led by conservative politicians with a political goal of appealing to the extremist base, these censorship laws and political retribution can be seen as byproducts of the cultural war that conservative pundits and politicians have waged with the hostile perceptions toward cancel culture.

Grounded in the hostile media effect and the influence of presumed influence (IPI) of biased media, this research aims to explain how Republicans' hostile media perception (HMP) of cancel culture has instigated a political phenomenon of the weaponization of cancel culture in the United States. The research is composed of four sections: (1) Debate on cancel culture in the online public sphere, (2) The hostile social media effect of cancel culture, (3) IPI of cancel culture on behavioral support for the partisan legislature, and (4) The role of attitudes toward censorship and motivated political reasoning.

To test the proposed four hypotheses, this research conducted a survey using a sample of the residents in the state of Florida. The residents in FL were selected because they were exposed to considerably higher media coverage and heated political debates than people in other states. The results support all hypotheses on the difference in hostile perception of cancel culture between Republicans and Democrats (H1), the effect of HMP on independent voters (H2), and the effects of IPI on support for partisan legislation (H3-H4).

## Participants of Panel 14

**Jana Bernhard** is a PhD student since 2021 in the research project Digitize!, where she works on automated text analysis methods and their validation.

**Hajo Boomgaarden** is Professor of Methods in the Social Sciences with a focus on Text Analysis at the Department of Communication, University of Vienna.

**Sebastian Galyga** is a PhD student since 2021 in the project Knowledge Resistance (KR). Before that, he was working at the ViCER and part of the H2020 project REMINDER.

**Noëlle Lebernegg** is a Ph.D. candidate in the project KR as well as the ACPP. She is interested in interpretable machine learning techniques and consequences of mis- and disinformation.

**Joon Soo Lim** (Ph.D. in Mass Communication, University of Florida) / Dissertation: The Effects of Message Typicality and Source Credibility on Memory and Attitude Change

**Maximilian Krug** is a postdoc at the Institute of Communication Studies at the University of Duisburg-Essen. In 2020, he completed his PhD on Multiactivity in Face-to-Face Interactions. He is currently conducting research on incivility and reactance in telegram groups.

Dr. **Jan Philipp Kluck** is a postdoctoral researcher at the chair of Social Psychology: Media and Communication at the University of Duisburg-Essen, Germany. His research focuses on interpersonal communication with and through digital media. He is particularly interested in the consequences of incivility and false information in online political communication.

Prof. Dr. **Nicole Krämer** holds the chair of Social Psychology: Media and Communication at the University of Duisburg-Essen, Germany. Her research focuses on social psychological aspects of human-machine interaction (especially social effects of robots and virtual agents) and computer-mediated communication (CMC). She investigates the processes of information selection, opinion building, and relationship maintenance of people communicating via the Internet, especially social media.

**Berta García Orosa** (Grupo New Media-USC; full profesor at the University of Santiago) is the project director. She holds a degree in Communication Sciences, in Political Science and Administration and a PhD in Communication Sciences. She has been studying political communication for more than 20 years. She directs two research projects and is part of an EU-funded ETN. Latest publications: Digital Political Communication Strategies (Palgrave).

## Panel 15: Security and Privacy in the Digital Age

Chair: Malte Elson

New technologies are proliferating rapidly, as is the number of systems and devices and their connections by which personal data are exchanged. Such opportunities increase the demand for system security and data privacy, posing a significant challenge to system designers and network administrators. Users are often faced with tools designed to maintain privacy and security that may be technologically sophisticated, yet designed in a manner that results in poor decision-making or neglect. Further, they may ignore adopting privacy recommendations against their better judgment when the privacy features are in the way of using the system or platform to their satisfaction. Other design features, dark patterns, may purposely prompt users to behave against their own interests. Illuminating the human element of security and privacy from different angles is therefore a necessary prerequisite to utilize available security tools and infrastructure to their full potential, and ensure that data protection and privacy policies are effectively implemented as is appropriate and in demand for a modern democracy.

This thematic panel includes theoretical and empirical contributions emphasizing behavioral aspects of information security and privacy in various domains. The research presented concerns the cognitive processes and strategies employed by adversaries and attackers as well as other information security experts, and the lack of standardization in the measurement of cybersecurity self-efficacy. An understanding of these important factors is conceived to contribute to, in the long run, increasing security in dealing with cyber-physical systems.

### **Same Same, but Different: Lack of Standardization in Measurement of Cybersecurity Self-Efficacy, Nele Borgert**

Recently, there has been a renewed interest in examining the self-efficacy of individual users in the field of cybersecurity, as even the most sophisticated technical measures fail to protect data privacy and security when not used as intended by the designer. Cybersecurity self-efficacy is defined as the belief about one's own ability to enact skills related to IT security or privacy. However, there is substantial heterogeneity in the theoretical emphasis (e.g., self-efficacy vs. ability) and the understanding of underlying concepts (e.g., motivation) used to design measures or interventions to improve users' cyber-security self-efficacy, and therefore, quite conceivably, in the measurement thereof. This pre-registered systematic literature review (<https://bit.ly/3wPWBYF>) systematically investigated 168 articles, published between 2010 and 2021, to categorize cybersecurity self-efficacy measurements, research models, as well as manipulations, under consideration of the technology of interest (smart home vs. other computerized devices). The results paint the current research on cybersecurity self-efficacy as a fragmented and incoherent picture due to the sheer number of utilized scales (more than 150 scales). We analyze the quality criteria of the scales (reliability together with evidence for content, construct, criterion, and incremental validity), identify the research frameworks, manipulation techniques, and technological contexts in which the role of self-efficacy is discussed and operationalized. The review concludes with suggestions for the methodological development of the field required to allow for meaningful research synthesis and the informed design of interfaces or information materials to support cybersecurity self-efficacy.

### **The Measurement of Self-Efficacy in Information Security Research: A Mixed Methods Evaluation of Popular Scales, Luisa Jansen**

Self-efficacy empowers people to act as responsible citizens off- and online. To believe in one's ability to accomplish a task (i. e., having self-efficacy) is a necessary condition for practicing democratic agency. Studying digital behavior, self-efficacy is one of the few variables that consistently predicts the use of security-enhancing measures. To ensure the quality of recommendations and interventions from research, a

reliable, valid, and consistent assessment of self-efficacy is essential. To determine the measurements' quality, a mixed methods evaluation of seven influential scales for measuring general users' self-efficacy related to their information security behavior was conducted. Next to a qualitative analysis of the information reported by the scales' authors about the construction and evaluation processes, the scales themselves were closely investigated qualitatively and psychometrically. To that end, an empirical online assessment of the seven scales with  $n > 182$  home users per scale was conducted. As a last step, the scales were compared to each other. Results indicate that in all scale construction and testing processes, major discrepancies with an optimal approach to test development are present. In the empirical assessment, the items differentiate strongly throughout the scales but lack quality in their difficulty. The tests show good internal consistencies and acceptable to good convergent validity to each other. Limitations and implications on how to improve the measurement of self-efficacy are discussed.

### **Predictors of Cognitive Performance in Software Reverse Engineering and Code Obfuscation, *Salsabil Hamadache***

To protect software, obfuscation is employed to deliberately create code that is difficult to comprehend. This is done to hamper reverse engineering, the process of analyzing a program's functionality, usually in order to (maliciously) attack it. Several obfuscation techniques have been technically evaluated, but evidence for their effectiveness in sabotaging human sense-making processes in reverse engineering is lacking. Moreover, cognitive aspects of and the role of adversarial reasoning in IT security are highly understudied, despite both obfuscation and reverse engineering constituting psychological problem solving processes.

We are currently running a study to receive insights into strategies and challenges when obfuscating and reverse engineering code. Having derived potential predictors of performance from the problem solving literature (convergent and divergent thinking, ambiguity tolerance, adversarial reasoning), we empirically assess their relevance in this domain.

In a between-subjects experimental design, participant pairs are randomly assigned to receive a course on adversarial reasoning (or none), then one member of each pair is given code and asked to obfuscate it while the other is asked to reverse engineer the code resulting from their partner's obfuscation process as well as non-obfuscated code. This way, differences in the success in reverse engineering non-obfuscated versus obfuscated code determine the effectivity of the obfuscation. The goals of this research are twofold: gaining insight into fundamental adversarial problem solving processes, and improving our understanding of what makes reverse engineering of software code particularly hard. In our talk, we will report findings and implications as well as future directions of our research.

### **Computational Thinking as a Theoretical Framework for Examining the Problem-Solving Skills of IT Security Professionals, *Martin Bordewick***

Attacks on cyber-physical systems have become a major threat to industry and society. Beyond economic damages and data breaches of inestimable magnitude, cyber-attacks pose significant threats to democratic structures. Apt cybersecurity networks are, therefore, a necessary prerequisite for maintaining peace, security, and freedom of speech and information gathering in the future. Accordingly, the ubiquity of information technology systems makes IT security the arena of an arms race between system attackers and defenders.

Complementing the extensive research on technical factors in IT security with a closer look at the less studied human factors and cognitive processes involved is, thus, of utmost importance, in order to develop suited security measures. The key activity of both defenders and attackers is finding vulnerabilities or anomalies, be it to protect or to compromise systems. In turn, finding the unknown is, at its core, the process of problem solving (PS). Cognitive psychology views PS as the process of bridging a gap between a given initial state and a target state. Computational thinking (CT) refers to a particularly systematic type of PS which formulates problems and their solutions in such a way that the solution paths can be effectively executed by any information-processing agent. Its main components decomposition, abstraction, algorithms, debugging, iteration, and

generalization have been repeatedly identified in the work of highly skilled IT security professionals. Hence, CT appears to be an apt framework to capture the specifics of the thinking of IT security experts, and as well offers an educational perspective of increasing digital literacy in society and, consequently, strengthening cyber security in a modern democracy.

The presentation will relate CT concepts to results of experimental paradigms reflecting PS in IT security.

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