



ANNUAL REPORT 2023



CONTENTS

WORDS FROM THE DIRECTOR	4
CENTER ADMINISTRATION	5
ADVISORY BOARD	5
RESEARCH PROJECTS	
Digital Citizenship	6
Digital Activism	7
Digital Technologies and Collective Behavior	8
Digital Literacy and Machine Learning	8
The Invisible Men (TIM)	9
AIAS-SHAPE FELLOWSHIPS	
Ethics and Digitalization in the Welfare State	10
Human-AI Co-Creativity	11
AI-enabled Citizenship and Democracy	12
Social Media Exemplars and Democratic Citizenship	12
From Smart Campuses to Smart Cities	13
RESEARCH NETWORK 2023	14
HIGHLIGHTS 2023	
Highlights 2023	24
STUDENTERTING: Data, democracy, and trust	26
Legal seminar series	27
RESEARCH ACTIVITIES 2023	
Publicity	28
Talks	29
Publications	30
Activities and outreach	32
EVENTS 2023	33
EXTERNAL COLLABORATIONS	37
RESEARCHER	38
NEW RECRUITMENTS 2023	40

WORDS FROM THE DIRECTOR

2023 marked SHAPE's second active year, and on top of an initial 2022 of building center administration, recruitment and establishing collaborations, SHAPE in 2023 has achieved significant results and established a strong network.

In the past year, SHAPE has not only conducted new and interdisciplinary research in the intersection between democracy and digitalization. The centre's researchers have been the driving force behind a number of activities and have disseminated their research through citizen engagement initiatives and by actively participating in the public policy debate on digitalization and technological literacy.

We are pleased that, thanks to the renewed grant allocated by the Board of Aarhus University, we can now look forward to continuing the many dialogues and collaborations with national and international researchers, organizations, authorities, and citizens who have all contributed to making SHAPE an open, active, and socially engaged research center in the past year. We look forward to continuing to work on and develop research-based solutions that can contribute to responsible, inclusive, and democratic digitalization in the years to come.

Best regards,



Peter Lauritsen, Professor & Center Director

CENTER ADMINISTRATION

Peter Lauritsen, Professor & Center Director

Kirsten Brohm, Academic Employee

Ane Wintoniak-Bendtsen, Student Assistant

ADVISORY BOARD

Kaj Grønbaek, Head of Department, Department of Computer Science, Faculty of Natural Sciences

Niels Mejlgaard, Vice Dean, School of Business and Social Sciences

Mette Nørgaard, Professor, Department of Clinical Medicine, Faculty of Health

Anne Marie Pahuus, Vice Dean, Faculty of Arts

Brian Vinter, Vice Dean, Faculty of Technical Sciences

RESEARCH PROJECTS

In 2022 and 2023, SHAPE has consisted of 4 main research projects: The Digital Citizen; Digital Activism; Digital Technologies and Collective User Behavior; Digital Literacy and Machine Learning. Each project is led by a PI and consists of both senior and junior researchers.

In the spring of 2023, SHAPE was expanded with an independent project on digital patient communities, The Invisible Men (TIM), as well as a number of affiliated projects across faculties at AU (see page 28). In September 2023, the center welcomed 5 AIAS-SHAPE fellows, each with their individual research project, who are part of an interdisciplinary research group at Aarhus Institute of Advanced Studies (AIAS) led by SHAPE.

DIGITAL CITIZENSHIP

The aim of the project is to conduct research that furthers the theoretical and empirical understanding of the digital representation of citizens – ‘the digital double’.

A central concern of the project is to deepen our knowledge about how citizenship is affected and transformed by digitalization and datafication and especially how vulnerable citizens are affected.

An important objective of SHAPE is to contribute to and engage in the public debate and understanding of how digital infrastructures and data affect society, democracy, citizenship, and subjectivity. Therefore, the aim of this project is to make visible the qualities, power, and politics of datafication and digital infrastructures, and thereby make them more accessible to and debatable for the public.

The project will cover the following questions:

- ❖ How is the relation between digitization and trust configured and developed in the Danish digitization strategies?
- ❖ What characterizes experiences and practices of digital citizenship among selected and vulnerable citizens?
- ❖ How do selected and vulnerable citizens experience their digital representation in public governance systems?
- ❖ How may digitalization result in different types of vulnerability?

Project participants: Peter Danholt (PI, Associate Professor), Antoinette Mary Fage-Butler (Co-PI, Associate Professor), Peter Lauritsen (Professor), Patrick Heiberg Kapsch (Postdoc), Mikkel Rask Pedersen (Postdoc).

External collaborators: Aarhus Municipality, Norddjurs Municipality, Danish Social Worker Association, VIA University College.

DIGITAL ACTIVISM

The project consists of two related experimental research projects and a series of activities focused on the activist and grassroots potentials of computation and web infrastructures. The overall project aims are:

- ❖ To develop new theoretical and analytical understandings of what democratic civic engagement and participation is, in light of digital infrastructural changes.
- ❖ To practically and experimentally investigate how grassroots technological infrastructures potentially create new visions and practices for civic engagement and participation.
- ❖ To communicate grassroots technological practices and reflections on their values to a wider public.

The investigation follows two trajectories:

- ❖ **Infrastructures of Searching.** 'Searching' is specifically relevant as it both constitutes one of the most common user activities and is an important element in the development of the web and artificial intelligence. The research addresses the 'future of search' by investigating chatbots and mis/dis information through explorative (auto)ethnographies and alternative search engines. The project follows novel developments within internet search and new protocols for these in the EU-funded forthcoming Open Web Index as well as elucidating internet users' agentic capabilities when searching online through a series of public workshops in Aarhus and abroad.
- ❖ **Infrastructures of Publishing.** The project takes part in and follows the development of a novel platform, ServPub, for hybrid publishing, i.e., publishing across digital and print. Publishing is specifically relevant to SHAPE, in that the field historically ties to democratic developments. In this case we are working with grassroots communities exploring wiki-to-print research and knowledge publication. The study questions perceptions of use, maintenance, hosting and service, and how autonomous networks produce visions and practices that (as an opposite of 'outsourcing') counter those of the big tech cloud.

Project participants: Christian Ulrik Andersen (PI, Associate Professor), Winnie Soon (Co-PI, Associate Professor), Pablo Velasco (Co-PI, Associate Professor), Renée Ridgway (Postdoc).

External collaborators: Centre for the Study of the Networked Image (London South Bank University), Creative Computing Institute (University of the Arts London), In-Grid, King's College London, Open Search Foundation, Systerserver, Varia.

DIGITAL TECHNOLOGIES AND COLLECTIVE BEHAVIOR

Digital technologies and their algorithms play an important role in our democracy and for social cohesion. On the one hand, they provide a space for optimizing behavior, creating communities, and exchanging opinions. But on the other hand, they may also be used as an instrument for strengthening bias, segmentation, and discrimination – and for spreading misleading information or even disinformation from influential individuals and coordinated networks, for instance. This project studies and then documents and renders visible such potential collective user behavior patterns.

Project participants: Anja Bechmann (PI, Professor), Marina Charquero Ballester (Postdoc), Jessica Gabriele Walter (Postdoc), Anton Elias Holst (Research Assistant), Mathias Holm Tveen (Administrator).

External collaborators: Faktabaari, TjekDet, Faktisk, källkritikbyrån, Pagella Politica, ATC, University of Uppsala, University of Bergen, University of Helsinki, University of Amsterdam, European University Institute, George Washington University, Brown University, and META (data grant awarded in 2022).

DIGITAL LITERACY AND MACHINE LEARNING

This project aims to develop specific, hands-on courses in digital technology targeting artificial intelligence and machine learning for Danish citizens aged 40-70 with a view to supporting active citizenship, creativity and empowerment in a digitalised contemporary reality. Predictive technologies play a vital role in the development of the Danish welfare state ranging from screening for breast cancer and predictions of neglect in families to everyday technologies, helping consumers to make the right choices based on our individual preferences. An understanding of technology is being integrated increasingly into the education system, all the way from primary and lower-secondary schools to colleges and university colleges; but a range of citizens do not have the necessary digital competences to understand and take an active part in the process of digitalization which will dominate society in the years ahead. In collaboration with relevant partners, SHAPE will focus on increasing the amount of information provided for citizens about digital technology and (specifically) artificial intelligence and machine learning. This will be done in libraries and under the auspices of trade unions, with workshops focusing on constructive, critical and creative processes in which citizens gain hands-on understanding of the potential and consequences of technology.

The project has developed a digital tool-kit called ml-machine.org, designed in particular for citizens with no previous experience of digital technology. In a co-design process with Dokk1 and trade unions, the project has developed and tested a citizens' information process in which citizens are given the chance to construct their own artificial intelligence systems with a view to understanding the technologies that are currently being integrated throughout society. This process integrates four areas of competence: the

technological ability to act, computational thinking, digital design and digital empowerment. But it focuses on digital empowerment.

ml-machine.org is an online learning platform which uses machine learning to train a computer model to recognise various movements. Connecting a micro:bit to a computer enables ml-machine.org to use the built-in accelerometer to collect and train the model to recognise movement data. ml-machine.org can also be set up to react to recognition with various outputs, making it possible to create an interactive system. ml-machine.org is designed to enable users to quickly create a functional system and then explore more advanced details in the machine learning process, depending on what they are most interested in. The system uses a standard web browser, so it is easy to access and you only need a micro:bit to get started. The user's data is also secure because it never leaves the user's computer.

Project participants: Ole Sejer Iversen (PI, Professor), Peter Dalsgaard (PI, Professor), Christian Dindler (Co-PI, Associate Professor) og Magnus Høholt Kaspersen (Postdoc). Affiliates: Marianne Graves Petersen (Professor), Lina Have Musaeus (Postdoc), Karl-Emil Kjær Bilstrup (Postdoc).

External collaborators: Danish Association of Masters and PhDs - DM, Centralbibliotekerne, Dokk1, DR – Danish Broadcasting Corporation, BBC micro:bit.

THE INVISIBLE MEN (TIM)

1,3 million Danes live with chronic illness, and some choose to engage in patient-led communities on social media to seek knowledge and share their illness narratives with others in in the same situation. Research suggests that participating in online communities with peers can provide citizens with chronic illness knowledge and care in ways that family and friends cannot. There are, however, a big gender imbalance in these online communities which are predominantly dominated by women. In Scandinavia, we have a strong tradition of democratic participation and citizenship. A tradition that the ever-increasing digitalization of society both expands and challenges. The focal point of this project is to illuminate this gender imbalance in digital participation by examining why so few men choose to share their illness narratives in online patient-led communities, and what consequences this may potentially have in a digital citizenship and gender equality perspective. Through individual interviews, the project seeks to explore the following questions:

- ❖ Why do men choose (not) to engage in online communities for people with chronic conditions? And what do they do instead?
- ❖ How (if) is the infrastructure and communication form in online patient led communities more inclusive towards women than men?
- ❖ How (if) can digital communities become more attractive and inclusive spaces for men to share their illness narratives?

Project participants: Amanda Karlsson (PI, Postdoc).

AIAS-SHAPE FELLOWS

Ethics and Digitalization in the Welfare State

Detecting Movements in the Moral Landscape of the Danish Welfare State

Digital technologies give rise to both great hopes and grave worries about how they will transform vital dimensions of Western societies, such as democracy, health care, work life and the legal system. One hope is that use of decision-supporting and decision-making algorithms will ensure more just, cheap, and effective public administration. At the same time, concerns are raised about how their use can corrode core moral ideals and values of the welfare state by increasing discrimination, social injustice and lack of transparency and trustworthiness. Denmark is a world leading nation when it comes to public sector digitalization. It is therefore likely that moral changes due to the use of digital technologies will show up here.

Through interviews with stakeholders and moral philosophical analysis of empirical research of public sector digitalization, this project examines if there are any indications of such changes occurring in the moral landscape of the Danish welfare state.

The output of the project is the conference ‘The Data Driven Welfare state II: Revolution, Reform, or Status Quo?’ held the 18.4.2024 at Aarhus University, which SHAPE co-organizes with the ADD-Project and the Danish Data Ethics Council, as well as a research article documenting the findings of the project.

Project participants: Cecilie Eriksen (AIAS-SHAPE fellow)

Human-AI Co-Creativity

Human-AI co-creativity to engage policy makers, general public, and researchers in societal issues

This project aims to explore the use of human-AI co-creative tools to facilitate broad public engagement in critical societal and civic dialogues. AI technologies have experienced remarkable advancements in the past decade, with one notable field being computational creativity, where algorithms autonomously generate human-level "creative" products such as visual art, poetry, and music. This intersection of human and algorithmic capabilities raises thought-provoking philosophical questions about the boundaries between them. However, the real-world impact of these technologies is most pronounced in computational co-creativity, where expert and amateur users seamlessly control powerful creative algorithms. Notably, the field of text-to-x (image, video, etc.) has seen significant growth, spearheaded by OpenAI's DALL-E release in 2021. These advancements have garnered attention in the media, particularly regarding their implications for the future of work, yet there is limited knowledge about their potential for social good and public participation in research.

In this project, a computational co-creativity tool called crea.visions will be used as a starting point and iterated on for the specific project goals. Crea.visions enables the general public to generate images and narratives related to current societal issues and future possibilities. Since its first launch in 2020, crea.visions was tested with over 1,000 participants and 25,000 generated images. The platform has become tailored for community-specific action, with the most recent versions allowing users to geotag problems within a specific part of a city and submit solutions linked up with existing NGOs. Crea.visions was first launched with the United Nations AI for Good and ArtBreeder to raise awareness about climate change and the importance of reaching the UN's Sustainable Development Goals. Following versions of crea.visions have been used in Denmark at the Danish People's Climate summit in fall 2021 and in May 2022 in Venice as part of ACM's Creativity and Cognition Conference where people created visions (images + titles and captions) of possible futures. Crea.visions was also used in a series of events in January 2023 as part of the international Learning Planet Festival; participants were asked to generate images of problems and potential solutions for issues affecting the city of Paris. In 2023 spring the interaction of crea.visions was tailored for Aarhus Municipality in Denmark, allowing for the inclusion of relevant stakeholders in socio-technical change processes.

Project participants: Janet Frances Rafner (AIAS-SHAPE fellow, Postdoc)

AI-enabled Citizenship and Democracy

Using AI to Test Effects of Inclusive Narratives on Notions of Citizenship and Support for Democracy

Concerns about the state of democracy have surged amongst new evidence that many citizens do not value democratic principles or accept election results. Many suggest that at the core of these anti-democratic beliefs is a dismissal of some voters – ethnic minorities – as lesser members of the nation. This project asks: “Can increasing the perceived centrality of ethnic minorities to the nation strengthen citizens’ commitment to democratic principles?”

According to my theoretical framework, individuals are motivated – perhaps increasingly so, due to growing inter-group polarization – to sacrifice democratic principles in favor of partisan and policy outcomes that favor their interests. The project posits that one way individuals justify sacrificing these principles is by dismissing the votes and rights of oppositional groups that they perceive as peripheral, second-class citizens with a lesser claim to the nation. In this way, perceived hierarchies of national belonging can help individuals to justify supporting undemocratic measures.

In experiments in India and the United States, the project will explore whether inclusive historical narratives can shift minorities’ perceived place in the nation and majority members’ commitment to democratic principles.

Project participants: Nicholas Haas (AIAS-SHAPE fellow)

Social Media Exemplars and Democratic Citizenship

The use of an exemplar refers to the use of the narrative of a concrete person who is personally affected by the issue – to make otherwise complex social problems more understandable and interesting. In my project at AIAS, I will investigate why some types of social media exemplars are so powerful in triggering digital engagement and shaping factual perceptions of social problems and attributions of government responsibility, while other types of exemplars are uninfluential. How can the impact of misleading unrepresentative social media exemplars be mitigated? The results from the project advance knowledge of a) the degree of diversity in how societal problems are illustrated with social media exemplars, b) how social media exemplars shape democratic engagement on social media, and c) the digital sources of mobilization, factual (mis)perceptions, and democratic responsibility attributions in the mass public.

Project participants: Lene Aarøe (AIAS-SHAPE fellow)

From Smart Campuses to Smart Cities

Democracy, Digital Citizenship, and Higher Education

The purpose of this project is to investigate the relationship between digital technology and transformations in higher education through a comparative analysis of smart campus initiatives in Europe and the US. Smart campus initiatives typically involve the use of digital tools to do some or all of the following: monitor and automate aspects of student learning and progress to degree; manage facilities and resources to improve efficiency and sustainability; produce new revenue streams; and enhance security and student wellness on campus. Smart campus initiatives hold tremendous promise for improving student learning and maximizing the environmental sustainability of universities. In practice, however, these tools can entrench inequality as well as intensify the surveillance and exploitation of student and faculty data.

The project will look specifically at the development of smart campus initiatives in Denmark and Scotland in comparison to the US and assess the impact of these initiatives on the privacy rights, working conditions, and academic freedom of students and faculty. Focus will be on the connections between smart campus and smart city initiatives, using case studies of smart campus initiatives that are explicitly designed to serve as proving grounds for smart city technology. These initiatives can vastly expand the powers of industry over higher education while raising pressing concerns about privacy and autonomy from unwarranted institutional oversight. To what extent do the social, political, and historical contexts of Denmark and Scotland shape smart campus initiatives in ways that are similar to, and/or different from, US smart campus initiatives? How might the comparison of these initiatives help inform visions of ethical approaches to smart campus development?

The project will according to plan collaborate with the Centres for Science Studies and Science, Technology, and Society Studies at Aarhus University who share an interest in surveillance, participatory design practices, smart cities, and the implications of digital technology for democracy and digital citizenship. Additionally, upon completion of the fellowship, the project will end with a hybrid workshop where a group of students and researchers from Aarhus University and Purdue University will work together to imagine ethical approaches to smart campus initiatives.

Project participants: Lindsay Anne Weinberg (AIAS-SHAPE fellow)

RESEARCH NETWORK 2023

The following centers, departments, and research projects at Aarhus University have all been affiliated with SHAPE's interdisciplinary research network consisting of research projects at the intersection of digitalization and democracy.

CENTRES / INSTITUTES AT AARHUS UNIVERSITY

- ❖ Aarhus Institute of Advanced Studies (AIAS)
- ❖ Center for Aesthetics of AI Images (AIIM)
- ❖ Center for Computational Thinking and Design
- ❖ Center for Humanities Computing
- ❖ Center for Hybrid Intelligence
- ❖ Center for Internet Studies
- ❖ Center for Language Generation and AI (CLAI)
- ❖ COBE Lab
- ❖ DARC (Digital Aesthetics Research Center)
- ❖ DATALAB
- ❖ DEMINOVA LAB
- ❖ Department of Law

AFFILIATED RESEARCH PROJECTS

Digital participation of young people with disabilities

For young people, digital technologies have become integrated as a mode of life, where use of social media, gaming etc. across multiple devices blend into almost all relations and practices in everyday life as a multi-modal digitality. Inclusive societies and citizenship have thus become impossible to realize without the digital dimension. However, research reveals a paradox; (1) digital media promise alternative ways of engagement for people with disabilities, and (2) digital medias create new barriers and vulnerabilities for people with disabilities. Young people with disabilities – like young people in general - use various digital technologies, but differences in prevalence and utilization suggest a disability digital divide. Social media use may bypass practical problems and support social connectedness in young people with various disabilities, but youth with disabilities also experience higher prevalence of digital bullying and excessive and problematic use of digital technologies. Across disability groups, intersections between risk and benefits are poorly understood. While 'young people's digital lives' is generally a well-reflected and documented research area, not much research has been done on the digital lives of young people with disabilities. Especially in a Danish context, research on media and disability is very scarce. We intend to

strengthen this research agenda and take the first steps towards an interdisciplinary focus on media and disability at AU.

Project participants: Louise Bøttcher (Associate Professor, DPU, Arts) & Stine Liv Johansen (Associate Professor, Center for Children's Media and Literature, Arts)

Mapping user journeys to digitalized services among socially marginalized people

This pilot research study aims to develop a better understanding of the challenges socially marginalized citizens encounter in relation to accessing digitalized welfare services. It does so through an ethnographically informed service journey mapping of the obstacles people at the intersection of homelessness and drug use encounter when seeking to access digitalized services. The broader aim is therefore to gain a more nuanced understanding of the effects of exclusion from digital citizenship for marginalized citizens.

Project participants: Maj Nygaard-Christensen (Associate Professor, Centre for Alcohol and Drug Research, BSS)

Digital citizenship in a legal perspective

Today, Denmark is one of the most digitalized countries in the world, and there is a strong political focus on maintaining this position. In May 2022, the Danish government launched a digitalisation strategy with the aim of increasing digital security, supporting the digital skills of the public and businesses, creating better welfare, accelerating the green transition and increasing growth and exports. The strategy assumes that digitalisation - as stated in the vision that deals with ethical perspectives - will be supported in the coming years by legislation that ensures "an efficient and user-friendly digital administration, an up-to-date framework for the use of new technology, and that digital solutions are developed based on citizens' legal security" (Denmark's digitalisation strategy - Together for digital development, 2022, p. 46). In dialogue with both researchers and practitioners, the project aims to investigate how we as a society can make digitalisation, legal rights and digital citizenship interact rather than collide.

Project participants: Per Andersen (Professor MSO, Department of Law, BSS), Bettina Lemann Kristiansen (Professor, Department of Law, BSS)

AI image practices as digital citizenship

The technological background of the project is the emergence of new AI computer models that are able to automatically generate synthetic images that resemble real photographs (GAN models, e.g. thispersondoesnotexist.com) or that translate textual input into images with ever greater detail and sense of syntax (GPT-3 models, see e.g. openai.com/dall-e-2/). This raises a number of pressing questions about how these 'artificial' image practices - through their training based on collected big (image) data - are shaped by specific existing image cultures and how synthetic images shape our visual citizenship onwards. The democratic challenge here is that everyone potentially participates in the creation of these

images (including through their data), but the premises for active participation are opaque. The new AI image technologies not only add new facets to citizens' ability to produce images, but also set new limits for which images can be created (due to the bias of computer models towards particular visual expressions and subject preferences) and what meanings these images are assigned depending on how we use them and talk about them (as art, superficial entertainment, 'fake news', visual dreams and imaginations, constricting stereotypes, etc.) The project is conducted by Centre for Aesthetics of AI Images (AIIM).

Project participants: Lotte Philipsen (Associate Professor, center director of Centre for Aesthetics of AI Images (AIIM), Arts)

The impact of Metaverse Marketplaces on the Lived Experiences of People with Disabilities

In collaboration with an international partner at Birmingham City University in the UK, we investigate what happens to active citizenship, inclusion and representation in digital marketplaces. One in five people worldwide are classified as living with a disability (WHO 2016). Yet, people with disabilities (PWD) are still one of the largest marginalized groups in the world, despite having £249 million spending power in the UK alone (Norman 2019). Previous studies have shown that (non)accommodation in physical marketplaces have a profound impact on PWD's welfare, e.g. through sense of identity and self-stigmatization (Baker, Holland, and Kaufman-Scarborough 2007). What happens to active citizenship, inclusion and representation in digital marketplaces? Through an interdisciplinary approach combining disability inclusion/exclusion; consumer well-being; digital consumption; retail management; event management and transformative marketing, the project aims to investigate inclusion of PWD in metaverse marketplaces and how this shapes their well-being and marketplace behaviour.

Project participants: Lizette Vorster (Assistant Professor, English Business Communication, Arts), Anne Odile Peschel (Senior Researcher, Department of Management, BSS)

Amplifying Data Rights

Data rights have been present in Europe for more than fifty years, starting regionally with the Datenschutzgesetz in Hessen (1970), nationally with the French Loi Informatique et Libertés (1978), at a European level through Convention 108 of the European Convention of Human Rights (1981), and finally harmonised through the General Data Protection Regulation (GDPR) (2016). Despite these strong rights, study after study shows that data controllers (those who are responsible for the processing of personal data) fail to live up to them. The majority of controllers show a lack of understanding and awareness of the rights (Ausloos and Dewitte, 2018), the majority do not respond within the 30 day time limit (Mahieu et al., 2017), and (if they do respond) the majority do not include the required information (Norris et al, 2017). These statistics are troubling by themselves, but even more so when we remember that the European Commission's explicit objective with the GDPR has been to "strengthen individual's rights" and "enhance control over one's own data" (EC, 2010). The GDPR is designed with the idea that official institutions (i.e., Data Protection Authorities) will work

together with empowered individuals to enforce the regulation. In other words, the poor success rates around data rights are not just a problematic side-note, but a weakness in the fundamental intent and functioning of the law.

In this project, we build a digital service that helps Danish residents exercise their right to access, right to be forgotten, and right to rectification. The service – datarettigheder.dk – will help people create the text of their request, contact the data controllers, verify the compliance of the response, and report the data controller to the data protection authority if they fail to meet their obligations. datarettigheder.dk consists of two core elements: 1) the user-to-regulation interface, and 2) the controller correspondence.

Project participants: Jonas Frich Pedersen (Assistant Professor, Department of Digital Design and Information Studies, Arts), Midas Nouwens Pedersen (Assistant Professor, Department of Digital Design and Information Studies, Arts)

The CAVA-Project: Comparing Adverse Vaccine Event Reporting – an interdisciplinary study of early 21st Century digital health citizenship in Denmark

The Danish Medicines Agency's pharmacovigilance database provides data about suspected adverse reactions reported in Denmark for specific types of medicine.¹ The information is used to support postmarketing safety surveillance programs. Currently, thousands of case reports are submitted to the database each year, making it a vast repository of drug safety information. Sometimes cited as a limitation of pharmacovigilance, however, is the assumption that "stimulated reporting" of adverse events occurs in response to warnings, alerts, and label changes that are issued by the health authorities. In vaccine research literature, the idea of 'stimulated reporting' builds upon the assumption that reporting of adverse events may burst into self-oscillation when vaccinated subjects are prompted or triggered by feral vaccine risk communication in the media. This entails the hypothesis that adverse vaccine event reports reflect sensory, conscious and communicative phenomena tied to the rise of digital health communication and monitoring technologies that responsabilizes citizens for the care of themselves and others. By comparing communication environments surrounding the implementation of different vaccination programs in Denmark, the project aims to identify and explore self-oscillating effects of pharmacovigilance to understand how these imply a new kind of digital health citizenship emerging out of early 21st Century vaccine politics.

Project participants: Marie Louise Tørring (Associate Professor, Department of Anthropology, Arts)

Social media in Indonesia - trends and challenges

Social media has acquired an exceptional role in Indonesia's social, economic, religious, and political life. The country has one the world's highest number of Facebook subscribers, while Jakarta has previously been dubbed the 'Twitter capital' and is arguably the current Instagram capital of the world. Social media platforms are transforming Indonesia in ways that remain poorly understood. They are re-shaping social relations, disrupting and creating

new opportunities in business sectors, accommodating new religious forms, practices, and communications, transforming modes of activism, and in a more general sense becoming laboratories for new representations and interpretations of social and political identities. At the same time, evidence is mounting that social media is being used to hamper and curtail democratic processes, as vested interest groups and so-called “buzzers” are manipulating public opinion and influencing elections.

The aim of this project is to bring together researchers working on the very forefront of these developments by critically examining the considerable and growing impact of social media on Indonesia’s society, economy and politics. Through a workshop we will take stock of the state of knowledge with regard to how social media is changing Indonesia and its significance on an international and global scale. We hope, for instance, to discuss the following issues: How does social media affect Indonesia’s democracy? How is the character of citizenship and activism shaped by social media? What is the interaction between social media usage and religious and social engagements, practices, and identities? In what ways are Indonesian livelihoods reorganized by social media marketplaces? How is social media reinforcing or reshaping rural-urban divides? And what methodologies and approaches are best suited to study these phenomena?

Project participants: Nils Ole Bubandt (Professor, Department of Anthropology, Arts)

Curating Data – developing a tool-kit for data literacy

While digitalisation, datafication and digital transformation are processes that characterise contemporary societies, citizens often don’t understand what data are, and how data processes might affect their daily lives. This is often due to the fact that data practices are predominantly associated with computer science, statistics, language processing and highly professionalised field of the so called Artificial Intelligence and as such they are abstract phenomena. In popular imaginaries data is often discussed in connection to much hyped surveillance which while important, often does little to make data less abstract and mysterious. This project seeks to develop a tool-kit for data literacy based on Curating Data Diagram to offer first hand and participatory experiences of data processing through curating. The diagram was originally developed by the principle investigator Magdalena Tyżlik-Carver in 2020 for Curating Data Course (in the program of Critical Data Studies) and is based on research into data and curatorial practices. It has been successful in teaching curating data to undergraduate students, and it has also been used when developing a workshop Fermenting Data for NordiCHI2022 conference (Tyżlik-Carver et al.) and a series of workshops since. Building on these experiences, the diagram will form a basis for developing a tool-kit for popular data literacy.

Project participants: Magdalena Tyżlik-Carver (Associate Professor, Department of Digital Design and Information Studies, Arts)

Methods and Approaches for the Study of Activism and Social Movements

During the last decades, social movement scholars have become fascinated by the connections between digital technologies and activism. From listservs, websites, and email communication during the global justice movements in the late 1990s, to the extensive use of social media by pro-democracy movements (Della Porta, 2015; Flesher Fominaya, 2017) including the Arab Spring, the 15-M (Spain), the Umbrella (Hong Kong) and Sunflower (Taiwan) movements, among many others.

Although they come from different political and geographical contexts, all these examples illustrate how technologies have become embedded in social movements, posing ethical, methodological, and theoretical challenges. Digital technologies, for example, not only facilitate collective action, but also weave social movements' meanings (Toret, 2013). In addition to transmitting or amplifying collective identity, social media can also shape the political identity of movements (Milan, 2015). Among the recent challenges faced by digital activists are incorporating algorithms into their repertoire (Treré, 2019; Treré & Bonini, 2022), dealing with misinformation and hate speech (Siapera, 2022; Siapera & Viejo-Otero, 2021), and relating it to radical politics seeking social change (Fenton, 2016). All these factors present huge challenges for studying digital activism. What theoretical approaches can we use? What methods do we follow? What are the ethical issues involved? The upcoming activity will address these questions.

On this basis, the project in May 2023 organized a two-day seminar on studying digital activism at Aarhus University, with a special focus on algorithms and contentious data in social movements. The aim was to provide a useful toolkit for researchers when facing the challenges of studying digital technologies and social movements, and to strengthen ties and build research networks with leading international scholars.

Project participants: Cristina Maria Flesher Fominaya (Professor, International Studies, Arts), Natalia Miranda (Postdoc, International Studies, Arts)

Experiencing and Resisting Technologies of Confinement, Surveillance and Data Extraction

Over the past decade new breakthroughs in automated technologies have led to a multiplication of modes of containment through technologies such as electronic ankle monitors, facial recognition, iris scan technology and other identification devices that sustain modes of differential exploitation (Jacobsen 2015; Pallister-Wilkins 2016; Andersson 2018; Mezzadra, Neilson, 2019; Aradau, Tazzioli, 2020; Byler and Sanchez Boe 2020; Sanchez Boe & Mainsah 2022; Byler 2022). Ethnic or religious groups, illegalized migrants or criminalized citizens are increasingly kept in situations of protracted captivity, and digital technology incorporated in governance to control and confine and to extract value and data from them. While most techniques to identify individuals were developed and managed by civil servants up until recently, tech companies today compile unprecedented amounts of data, while rapidly developing increasingly sophisticated software that can process them, with little or no consent or oversight, and with for-profit objectives. Over two days in June 2023, this combined writing workshop, public keynote & panel discussion and open Design Friction

workshop gathered researchers and practitioners who contribute to the public debate and social change in the fields of citizenship, confinement and immigration control, that are rapidly transformed by the deployment of digital technologies.

Project participants: Carolina Sanchez Boe (Postdoc, Interacting Minds Centre)

Watchdogs of Democracy – Journalist-Researcher Relations in a changed media environment

The project focuses on the viability of journalist-researcher relations. Journalists and researchers serve as “watchdogs”, speaking truth to power. Although journalists and researchers pursue different ideals of truth, studies generally show that in well-functioning liberal democracies journalist-researcher relations also work well. In recent years, however, the watchdog role has been subject to an increased pressure, applied by political and corporate stakeholders and enhanced by the digital revolutions. These processes erode the foundations of media and research institutions alike, opening the floodgates for “alternative” interpretations. While many journalists and researchers have adapted to the brave new world of social media, the changed media environment also implies a fundamental shift of the checks and balances characterising the democratic order: In traditional print and electronic media, the watchdog roles of both the journalist and the researcher have been sustained by their authority. They are considered reliable sources because of the reputation of the institutions they represent. On social media, you are naked, left to the strength of your arguments and to the quarters of the audience. Traditionally, trust in researchers significantly outmatch that of journalists. Yet apart from being in the same boat – the loss of authority also threatens the reciprocity, and accordingly the mutual trust, between the two: The proliferation of “alternative truths” challenges what it means for a journalist to report fair and balanced. And the proliferation of social media also enables researchers to denounce particular stories, or even particular journalists.

Project participants: Morten Brænder (Associate Professor, Department of Political Science, BSS), Lene Kühle (Professor, Department of the Study of Religion, Arts)

Center for Language Generation and AI (CLAI)

Center for Language Generation and AI (CLAI) is organized around five key topics: benchmarking and development of large language models, linguistics and cognitive science, creativity and thinking, education, and trust and authority. Hosted at the School of Communication and Culture, CLAI has members from all three schools at the Faculty of Arts and from Aarhus BSS and Aarhus Institute of Advanced Studies. With ten full professors, four associates and eleven junior faculty, the center has a strong foundation across disciplines needed to understand and further the field of language generation; one of the most impactful technologies of our age. Scholars from among other linguistics, humanities computing, cognitive science, philosophy, media studies, and education will work together to provide knowledge of the development and implementation of language technologies.

Center Directors: Mads Rosendahl Thomsen (Professor, Comparative Literature, Arts), Rebekah Brita Baglini (Associate Professor, Linguistics, Arts)

Socratic Ignorance in working with generative AI chatbots

Instead of seeing the GAI as threats we want to explore GAI as learning tools to enhance digital citizenship with a new Socratic Ignorance approach. Just like the Socratic Dialogues in Ancient Greece, ChatGPT works by answering questions, many of them relating to knowledge and learning – and the aim of this project is to lift our understanding of the moral and educational issues of ChatGPT. The learning potential in working with GAI would be build up around giving students Socratic Ignorance, by letting them give tasks to the GAI: 1. Write an essay about Bourdieu's concepts of 'capitals' or 2. Explain what is meant by 'interpretative anthropology' as examples. Then they read the essay, and (supervised by us as teachers) develop and use their Socratic Ignorance. What was new to them in the text? What do they maybe question in the GAI's essay? What has spurred their curiosity? And then we evaluate their essays based on 1. Their ability to formulate questions to GAI, 2. The GAI text, and 3. a written essay from the students where they explain how their Socratic Ignorance meets the GAI text. The student's essays are about reflecting about what they have learned they did not know, what it means to know something, and how to be certain of knowledge (their own or the one presented by the GAI).

Project participants: Maja Hojer Bruun (Associate Professor, Educational Anthropology, Arts), Cathrine Hasse (Professor, Educational Anthropology, Arts), Christian Christrup Kjeldsen (Educational Sociology, Arts)

Empowering active citizenship by virtual reality (VR) experiences: New opportunities to address social acceptance issues of innovative renewable energy systems

The climate and recent energy crisis are hoped to accelerate renewable energy sources in Europe. Even though citizens often support means to reach the green transition on a general level, when it comes to "their own backyard," their tolerance or approval is not automatically given (Wolsink, 2007). On the one side, there is a failure to integrate citizens into development and planning processes early and adequately. On the other side, researchers and project developers often fear that co-creation processes, where citizens actively

participate from the beginning to the end, are beyond their expertise and time. We propose an interdisciplinary approach, where social sciences bridge this gap between technical sciences and the public by providing virtual reality (VR) experiences of socially needed system disruptive innovations. This allows citizens to experience and interact with 360-degree visualization of innovations under development (Cranmer et al., 2020).

Project participants: Jessica Aschemann-Witzel (Professor, Department of Management, BSS), Anne Odile Peschel (Senior Researcher, Department of Management, BSS), Marta Victoria (Associate Professor, Department of Mechanical and Production Engineering, TECH), Gabriele Torma (Postdoc, Department of Management, BSS)

The population's use of social media in the 2022 general election campaign

Since 2007, social media has been an integral part of Danish election campaigns. From humble beginnings, when Anders Fogh Rasmussen invited his Facebook friends to go jogging in Dyrehaven, social media is now an integrated and domesticated part of the population's media image during election campaigns. For politicians, a social media presence is now unavoidable, while both communication and target group selection have become professionalised, and a large part of campaign budgets in election campaigns are spent on social media. Today, strategic political communication on social media is based on target group selection using big data, and the content of the communication is often adapted to algorithmic logics for visibility and popularity. Such a development is a natural part of further societal digitalisation, but also raises interesting questions about the role of data and algorithms in citizens' everyday lives, including the political public sphere and thus the foundation of democracy as we know it.

The project will initially be centred on the analysis and publication of survey data. Based on experience, there is quantitatively and qualitatively enough data for several publications, which will focus on both the latest election and the longitudinal perspective based on time series analyses of social media use from 2011 to 2022/23. These data provide a unique insight into and overview of citizens' relationship with social media in the context of political communication and can lead to derived studies on the schism between the continued intense use of and lack of trust in social media, as also documented in previous studies.

Project participants: Jakob Linde Jensen (Associate Professor, Department of Media and Journalism Studies)

Testing Democracy from the Bottom-Up: Plan and Reality of Civil Defense in Cold-War Aarhus

While in the past, city planners designing for civilian protection guesstimated the movement of people by looking at the distribution of places (churches, shops, schools, parks) in the maps, today we can use mobility statistics, 3D models and road networks to quantify the diurnal movement of people through the urban landscape and the accessibility of shelters. With the help of computer simulations and agent-based modeling (ABM) our project aims to assess the evacuation potential of the Aarhus shelters in order to evaluate how effective,

even, and complete their coverage was with regard to 1970-80s population and building distribution. For example, we will design an agent-based model that will investigate the efficacy of the shelter system under different conditions, such as varied shelter readiness or the level of awareness among the general public about the shelter location. Agents will be asked to move to the nearest shelter they are aware of, enabling us to reconstruct what proportion of the population successfully reached protection and whether they were evenly distributed between locations. This way we can assess the utility of the shelter system and take into account the differences in population numbers and activity in the course of the day and different levels of awareness of evacuation procedures. Computer algorithms coupled with historical data will reveal how well the local implementation of civil defense matched the democratic and equitable ideal of the national strategy.

Project participants: Adéla Sobotkova (Associate Professor, History, Arts), Rosanna Farbøl (Assistant Professor, History, Arts), Petra Hermankova (Assistant Professor, Classical Archaeology, Arts)

HIGHLIGHTS 2023

FEBRUARY

Toward a Minor Tech workshop,
transmediale festival, Berlin

Workshop: Machine Learning and
Artificial Intelligence in Practice, Dokk1

APRIL

Legal seminar series #1:
The impact of digitalization on law

AU research projects in democracy and
digitalization are granted SHAPE funding

Anja Bechmann is co-author of report with
guidelines for the management of Big Tech,
Nordic Think Tank for Tech and Democracy

JUNE

SHAPE-panel on sociotechnical data studies
at Nordic STS Conference 2023

Legal seminar series #2:
The digital development lawyer

ServPub workshop in collaboration w.
Creative Computing Institute,
University of the Arts London

JANUARY

Makoto Takahashi visits SHAPE with a
presentation on Participation in Nuclear
Emergencies (PINE)

Arne Hintz visits SHAPE with a presentation on
Digital Citizenship in a Datafied Society:
Challenges and Opportunities for a Datafied
Democracy

MARCH

Ole Sejer Iversen is speaker at meeting for the
Committee for Children and Education at the
Danish Parliament

Open Workshop on Machine Learning, Dokk1

Visiting researcher: Brit Ross Winthereik gives
presentation on the digital state seen from
the perspective of the welfare recipient

MAY

Announcement of AIAS-SHAPE fellows

Student workshop: Data, democracy and trust?

Workshop: How to use machine learning in your
job? In collaboration w. The Danish Association
of Masters and PhDs - DM

AUGUST

Symposium: Peter Danholt is speaker at Citizen Science i Midten

SEPTEMBER

Start of AIAS-SHAPE fellowships

Workshop on data in social work, VIA

Processing Community Day
- a day of code, art and culture

Legal seminar series #3: Digital administration,
rule of law and data protection

Đorđe Krivokapić visits SHAPE with a
presentation on biometrical mass surveillance

OCTOBER

Aarhus University's board decides to fund
SHAPE for two more years (2024-25)

NOVEMBER

Symposium: Digital participation
of young people with disabilities

Legal seminar series #4:
Digitalization as an administrative burden

Workshop on AI and Machine Learning in
collaboration w. Centralbibliotekerne

Ole Sejer Iversen participates as speaker at
a hearing on digital technology literacy in
public schools, Committee for Children and
Education and the Committee for
Digitalization and IT

ServPub workshop w.
In-grid & Systemserver

DECEMBER

Workshop: Counter-Mapping University
Surveillance, organized by AIAS-SHAPE
fellow Lindsay Weinberg

Workshop on AI and Machine Learning in
collaboration w. Centralbibliotekerne

Ole Sejer Iversen is granted the annual
award for digital societal impact by DI -
Digital and Digital Dogme

HIGHLIGHTS 2023:

StudenterTing: 11 points of attention for state and citizens on data, democracy, and trust

In May 2023, students from Aarhus University gathered at SHAPE's StudenterTing to discuss how to create the best conditions for a democratic digitalization. Together they formulated 11 points of attention for both state and citizens on data, democracy, and trust - read them here.



#1 Transparency!

#2 Thorough considerations about the necessity to collect data is crucial – always ask "why?" before collecting data

#3 Be aware that data is never neutral but can reflect biases

#4 Trial periods are needed for new technology - ensure that things are tested thoroughly before being put into public use

#5 Data can't solve everything; critical reflection is needed when deciding when data should and shouldn't be used



#6 Information about the reason for collecting data is essential

#7 All citizens should be able to get insights into all the data collected about them

#8 The state has a responsibility to offer alternatives to health services/tracking that are only offered by private companies

#9 Efficiency and economization are not sufficient arguments for collecting data about citizens

#10 The state should stop making agreements with tech giants on digitalisation - for example, as seen with the collaboration with Google on Chromebooks in primary schools

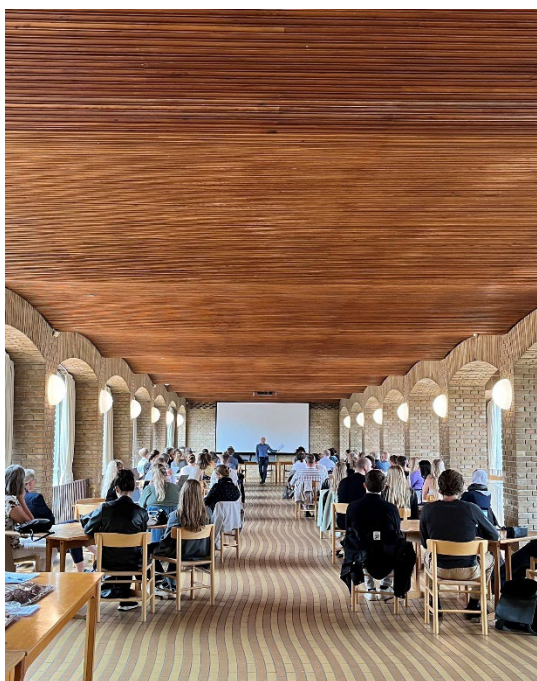
#11 For fellow citizens: Say "no" to cookies (download an extension doing this for you to your computer)

Thank you to all the students for great engagement and interesting discussions!

HIGHLIGHTS 2023:

Legal seminar series: Digital citizenship in a legal perspective

In collaboration with researchers from the Department of Law at AU, SHAPE in 2023 hosted a seminar series focusing on the legal aspects of digital citizenship. During the spring and fall of 2023, the four seminars attracted many researchers, practitioners, and students.



Presentation by Folketingets Ombudsmand, Niels Fenger.

How do we make digitalization, rule of law and digital citizenship interact rather than collide? This question formed the starting point for the seminar series, which has aimed to bring together both theorists and practitioners, researchers and authorities to learn more about the area together.

The initiators of the seminar series, **Per Andersen** (Professor MSO) and **Bettina Lemann Kristiansen** (Professor, AU), have emphasized the importance of bringing

together researchers and practitioners to discuss pitfalls and opportunities in the digital transformation of public administration.

The seminar series was opened in April 2023 with an introductory seminar on **The Impact of Digitalization on Law** with presentations by Professor at the University of Oslo, Dag Wiese Schartum, and Professor Bettina Lemann Kristiansen, both of whom focused on the challenges and opportunities of digitalization in public administration from a citizen perspective.

The speakers at the second seminar in the series, **The Digital Development Lawyer**, consisted of practitioners from both the public and private sectors: CEO & Director of Digital Compliance, Charlotte Bagger Tranberg, spoke about how compliance is a prerequisite for the trust of digital citizens, while project manager Henrik Bøjsen and lawyer Vibeke Kahl from Syddjurs Municipality talked about experiences with GDPR and data security in a municipal context.

At the third seminar on **Digital, administration, rule of law and data protection**, the Danish Parliamentary Ombudsman, Niels Fenger, visited the seminar series and spoke about the risks associated with the implementation of eGovernment. Next, Steen Jørgensen, Associate Professor and former Chief Legal Counsel at Vejle Municipality, followed up with a presentation on the challenges and pitfalls associated with the implementation of digitalization and GDPR. The fourth and final seminar was held in November 2023, where the chairman of the Environment and Food Board of Appeal, Professor Birgitte Egelund Olsen, and Associate Professor Matthias Döring spoke about **Digitalization as an administrative burden**.

RESEARCH ACTIVITIES 2023

In 2023, SHAPE's researchers have participated in a variety of activities: In addition to publishing research articles, they have been presenters at seminars and conferences, and they have been actively engaged in the public debate on digitalization.

PUBLICITY

Ole Sejer Iversen was co-author of the opinion piece "[Ingen skal kunne gennemføre gymnasiet uden fundamental forståelse for digital teknologi](#)" published in Altinget, 5 December.

Peter Lauritsen was co-signatory of the opinion piece "[Teknologiforståelse som valgfag i folkeskolen ger ulighed hos børn og unge](#)" published by Avisen Danmark, 29 October.

Ole Sejer Iversen was co-author of the opinion piece "[Uddannelsesledere til regeringen: Teknologiforståelse som valgfag vil øge polarisering](#)" published in Altinget, 23 October.

Ole Sejer Iversen participated in an interview on [technology literacy in the new government proposal regarding public schools](#) at skolemonitor.dk, 13 October.

Ole Sejer Iversen participated in an interview on [technology literacy in public schools](#) at skolemonitor.dk, 12 September.

Ole Sejer Iversen was co-author of the opinion piece "[Resten af Europa venter ikke, mens vi lader vores børn finde rundt i den digitale verden på egen hånd](#)", 11 September.

Ole Sejer Iversen was co-author of the opinion piece "[Mens vi diskuterer skærme i skolen, sætter resten af Europa digital teknologi på skemaet](#)", 7 September.

Ole Sejer Iversen gave an [interview about the new Videnscenter for Digital Teknologiforståelse to folkeskolen.dk](#), 16 August.

Peter Dalsgaard participated in an [interview on the decrease in users on ChatGPT](#) in Berlingske, 9 August.

Peter Lauritsen was author of the opinion piece "[Et forbud mod skærme i daginstitutioner er politik, der er kørt af sporet](#)" in Jyllands-Posten, 11 June.

Anja Bechmann participated in an [interview on misinformation and threats against democracy](#) in Radio4's Kraniebrud, 15 May.

Anja Bechmann was co-author of the opinion piece "[Techgiganter og kunstig intelligens udfordrer vores tillidsbaserede samfund](#)" in Altinget, 11 May.

Peter Dalsgaard participated in an interview with Jyllands-Posten about Snapchat's new chatbot My AI: "[Ny kunstig "ven" kan blive den første af flere menneskelige robotter](#)", 8 May.

Peter Lauritsen was author of the commentary "[Forældre og lærere skal sætte alarmismen over børns skærmbrug på pause](#)" in Jyllands-Posten, 16 April.

Peter Dalsgaard was interviewed for the article "[Hvorfor kan vi bare ikke lade være med at scrolle på vores mobiltelefon](#)", Jyllands-Posten, 11 March.

Peter Dalsgaard was interviewed by Omnibus for the article "[LEKTOR RÅBER VAGT I GEVÆR: DEN KUNSTIGE INTELLIGENS CHATGPT OPDIGTER REFERENCER](#)", 7 March.

Ole Sejer Iversen was co-author of the commentary "[Forskere: Den nye læreruddannelse spiller fallit på teknologiforståelse](#)", Altinget, 13 February.

Ole Sejer Iversen was interviewed by Berlingske for the article "[Fire råd fra en professor til forældre i en digital verden: "Man skal ikke ønske en verden uden skærme"](#)", 7 February.

Ole Sejer Iversen was interviewed by Berlingske: "[Han forsker i børn og unges liv bag skærmen. Nu vil han aflyve en myte, som forældre og politikere har udbredt i årevis](#)", 23 January.

TALKS

Ole Sejer Iversen was speaker at a [hearing for Folketinget's Børne- og Undervisningsudvalg and Udvalget for Digitalisering og IT](#), 26 October.

Peter Danholt presented "Sundhedsvæsnet – hvordan lever vi med det?" at e-sundhedsobservatoriets annual conference in Odense, 12 October.

Peter Danholt gave a talk on citizen-involving research at the symposium Citizen Science i Midten, 22 August.

Pablo Velasco presented "Prácticas crítico-técnicas en tecnología digital: crítica desde el sur global" [Critical-technical practices in digital technology: critique from the Global South] at Coloquio Pensamiento latinoamericano sobre tecnología [Latin American Thought on Technology.] Online conference (online), UABJ/UNAM Mexico, 24-26 May.

Renée Ridgway presented "Subjectivities of search or Agencies of anonymity? The black box (Google) versus the black bloc(Tor)" at the symposium Human Agency, Digital Society and Data-Intensive Surveillance, Paris Institute for Advanced study, 22-23 May.

Christian Ulrik Andersen presented "Testing the Black Box: Material Aesthetics in Contemporary Art and Digital Culture," at the symposium Human Agency, Digital Society and Data-Intensive Surveillance, Paris Institute for Advanced Study, 22-23 May.

Christian Ulrik Andersen presented "Facial Interface Culture - Filters, Fakes, Flaneurs, and NFTs" at ISEA2023 Paris, International Symposium on Electronic Arts, 16-21 May.

Renée Ridgway gave the online presentation Matters of care? Capturing therapy chatbots' transactional data exchanges through critical feminist screenshotting at STS conference, TU, Graz University of Technology, 10 May.

Ole Sejer Iversen was keynote at FabLearnDK 2023, 27 April.

Renée Ridgway gave the presentation Critical Feminist Screenshotting at the conference 'AI and Archives: Exploration, Possibilities and Challenges, organised by University of Sussex, UK/Sussex Humanities Lab & Feminist Stack, 27 April.

Peter Danholt gave a presentation on active (digital) citizenship at Aarhus Municipality's conference on citizenship at Dokk1, 28 March.

Renée Ridgway gave the online presentation Critical Feminist Screenshotting at the conference 'Algorithms for Her: Feminist Approaches to Digital Infrastructures, Cultures & Economies', Sheffield U.K., 22 March.

Christian Ulrik Andersen organized and presented at panel at transmediale festival 2023, Akademie der Künste, Berlin, 2 February.

PUBLICATIONS

The publications below are either funded by SHAPE/Aarhus University or external foundations, but all are associated with SHAPE projects.

Andersen, L. B., **Danholt, P.**, & Ratner, H. F. (2023). Hybrid teknologiforståelse. Tidsskriftet Læring Og Medier (LOM), 16(28). <https://doi.org/10.7146/lom.v16i28.136297>

Andersen, C. U. and Pold, S. Protest and Aesthetics in The Metainteface Spectacle. ISEA2022 Barcelona, International Symposium on Electronic Art, proceedings, 84-94.

Andersen, C. U. and Pold, S. (Forthcoming). Techniques of the Face – The Art and Politics of Video Conferencing (Inter)Faces. in Axel Volmar, Olga Moskatova and Jan Distelmeyer (eds.), Video Conferencing Infrastructures, Practices, Aesthetics. Transcript Verlag.

Andersen, C. U. and Geoff Cox. (2023). Toward a Minor Tech. Peer-reviewed Newspaper, 12(1).

Andersen, L. B., **Danholt, P.**, & Ratner, H. F. (2023). Hybrid teknologiforståelse. Tidsskriftet Læring Og Medier (LOM), 16(28). doi.org/10.7146/lom.v16i28.136297

Bak, P. P., **Bechmann, A.**, & Walter, J. G. (2023). Digital false information at scale in the EU: Current state of research in various disciplines, and future directions. New Media & Society. <https://doi-org.ez.statsbiblioteket.dk/10.1177/14614448221122146>

Bechmann, A., Mortensen, J. & Siegfredsen, N. (2023). Datafication in Human-Machine Communication between representation and preferences: an experiment on non-binary gender representation in voice-controlled assistants. SAGE.

Bekker, T., **Dalsgaard, P.**, Yoo D. et al. (2023). More-Than-Human Perspectives and Values in Human-Computer Interaction. CHI 2023 - Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems. Association for Computing Machinery, Inc, 2023. 516.

Bornakke, T., **Bechmann, A.**, Kalsnes, B., Heath, C., Gylfadóttir, E. Ý., Granlund, F., Haaslahti, H., Brúsá, J., Holmberg, M., Horowitz, M. A., Ravn-Højgaard, S., Ali, S. J., & Ólafsson, T. (2023). A Nordic approach to democratic debate in the age of Big Tech: Recommendations from the Nordic Think Tank for Tech and Democracy. Nordic Council of Ministers. <https://pub.norden.org/nord2023-004/>



Danholt, P., Andersen, L.B. & Lauritsen, P.: (Forthcoming). To care for the possible: configuring care in the Teledialogue project. In Lydahl, D. & Nickelsen, N.C.M. (Eds.), Ethical and methodological dilemmas in social science interventions - careful engagements in healthcare, museums, design and beyond. Springer.

Danholt, P. (Forthcoming). Thinking Participatory Design workshops in the presence of cosmopolitics. DASTS2022 Special issue, STS Encounters.

Dindler, C., O.S. Iversen and Hjorth, M. et al. (2023). DORIT: An analytical model for computational empowerment in K-9 education. International Journal of Child-Computer Interaction. doi: <https://doi.org/10.1016/j.ijcci.2023.100599>

Fage-Butler, A., Ledderer, L. & Hvidtfelt Nielsen, K. (Eds.). (Forthcoming). Science communication and trust. Palgrave Macmillan.

Rafner, J., Zana, B., Beolet, T., Büyükgüzel, S., Michel, E., Maiden, N., Risi, S., & Sherson, J. (In Press). Crea.visions: A Platform for Casual Co-Creation with a Purpose Envisioning the Future through Human-AI Collaboration with Multiple Stakeholders. In ICC'23.

Rafner, J., Zana, B., Biskjær, M. M., **Dalsgaard, P.**, & Sherson, J. (In Press). Picture This: AI-Assisted Image Generation as a Resource for Problem Construction in Creative Problem-Solving. In Creativity and Cognition (C&C '23), June 19–21, 2023, Virtual Event, USA. ACM, New York, NY, USA, 7 pages. <https://doi.org/10.1145/3591196.3596823>

Ridgway, R. (2023). Deleterious consequences: How Google's original sociotechnical affordances ultimately shaped 'trusted users' in surveillance capitalism. In 'The State of Google Critique and Intervention', eds. Astrid Mager, Cristian Norocel, Richard Rogers, Big Data & Society Big Data & Society, 10(1). <https://doi.org/10.1177/20539517231171058>

Ridgway, R. (2023). Introverted Data: Sensorvault Subjects. In 'Cyberwar Topologies: In Struggle for a Post-American Internet', eds. Svitlana Matviyenko and Kayla Hilstob, Digital Democracy Institute. <https://digitaldemocracies.org/research/cyberwar-topologies/>. Sent to Press

Soon, W., & Velasco, P. R. (2023). (De)constructing machines as critical technical practice. Convergence. doi.org/10.1177/13548565221148098

Walter, J. & Bechmann, A. (2023). Delegated Regulation on Data Access Provided for the Digital Services Act: Response to Call for Evidence from Nordic Observatory for Digital Media and Information Disorder (NORDIS). Aarhus.

Wiehn, T. & **Kapsch, P.H.** (Forthcoming). Algoritmer. In Andersen, J. & Hvenegaard Rasmussen, C. (Eds.). Digital kultur: En introduktion til digitale medier og samfund. Samfundslitteratur.

ACTIVITIES & OUTREACH

Ole Sejer Iversen was granted [the special award for digital societal impact of the year](#) by DI Digital og Digital Dogme, 6 December.

SHAPE's **Digital Citizenship** project participated at the Nordic STS Conference 2023 in Oslo with a panel on 'Sociotechnical Data studies', 7-9 June.

Antoinette Fage-Butler was part of the international project "Sci-AI", which investigates how AI affects our trust in science. The collaboration is organized by the University of Hamburg and TU-Braunschweig.

Antoinette Fage-Butler hosted a Circle U. workshop on participation and citizenship: "Risk, future narratives and sustainability", 12 May.

Anja Bechmann participated in panel on 'infodemics' at Matchpoints 2023, Aarhus Universitet, 11 May.

Anja Bechmann participated in [video interview](#) with DM – The Danish Association of Masters and PhDs about her research and participation in the think tank on tech and democracy for the Nordic Council of Ministers, April.

Renée Ridgway participated in the workshop ELSA (Ethics, Legal, Social Aspects of Open Web Index search), Technical University, Graz Austria, organized by TU Graz and Open Search Foundation, 19-20 April.

Anja Bechmann was co-author of the report from the Nordic Think Tank for Tech and Democracy: [A Nordic approach to democratic debate in the age of Big Tech - Recommendations from the Nordic Think Tank for Tech and Democracy](#), 18 April.

Anja Bechmann was appointed as a new member of the Royal Danish Academy of Sciences and Letters, April.

SHAPE's **Digital Literacy and Machine Learning** project, in collaboration with DR - Danish Broadcasting Corporation, launched [teaching material on machine learning for Danish school students](#), 20 March.

Ole Sejer Iversen presented for the Children and Education Committee in the Danish Parliament under the auspices of the national alliance for digital technology understanding, 9 February.

EVENTS 2023

In 2023, SHAPE organized and co-organized a variety of events and research activities, including workshops, seminars, and conferences, together with a number of collaborators.

Workshop and networking event: Language generation and AI, December 13

The Center for Language Generation and AI (CLAI) brought together researchers in language models, language generation and artificial intelligence at Aarhus Institute of Advanced Studies (AIAS) in collaboration with the Danish Academy of Technical Sciences (ATV).

Workshop: Machine Learning and Artificial Intelligence in Practice (Aarhus), December 13

Postdoc Magnus Høholt Kaspersen moderated a workshop on machine learning and artificial intelligence for library staff. Organized in collaboration with Centralbibliotekerne, Dokk1 and Aarhus Libraries.



Workshop: Counter-Mapping University Surveillance, December 6

AIAS-SHAPE fellow Lindsay Weinberg together with Nathan Swanson (Purdue University) organized a research workshop on surveillance, belonging, security and datafication. Organized in collaboration with Aarhus Institute of Advanced Studies (AIAS).

ServPub workshop with In-grid & Systemserver, November 24

The Digital Activism project organized a workshop in the experimental platform in computational publishing, ServPub. Facilitated by In-grid with contributions from members of Systemserver, Borough Road Gallery (LSBU).

Workshop: Machine Learning and Artificial Intelligence in Practice (Roskilde), November 17

Postdoc Magnus Høholt Kaspersen moderated a workshop on machine learning and artificial intelligence for library staff. Organized in collaboration with Centralbibliotekerne and Roskilde Bibliotekerne.

Cross-disciplinary SHAPE lunch with Maj Nygaard-Christensen, November 17

Presentation on the project Mapping user journeys to digitalized services among socially marginalized people.

Legal seminar series #4: Digitalization as an administrative burden, November 10

Presentations by the chairman of the Environment and Food Board of Appeal, Professor Birgitte Egelund Olsen (Department of Law, Aarhus University) and Associate Professor Matthias Döring (Department of Political Science, University of Southern Denmark).

Symposium: Digital participation of young people with disabilities, November 10

Research symposium focusing on the development of theoretical and methodological frameworks for research on digital participation of young people with disabilities. Organized by Associate Professor at Center for Children's Literature and Media, Stine Liv Johansen, and Associate Professor of Neuropsychology at DPU, Louise Bøttcher.

Seminar: Neutrality or activism? Journalists and researchers in dialog, October 26

Half-day conference on the collaboration between journalists and research sources with a special focus on neutrality or activism and on the presentation and representation of research sources in the media. Organized by Professor at the School of Culture and Society, Lene Kühle, and Associate Professor at the School of Political Science, Morten Brænder, in collaboration with DMJX (Danish School of Media and Journalism).

Workshop: What do AI images mean for the news media, October 12

In collaboration with Ritzau, the Center for Aesthetics of AI Images (AIIM) organized a workshop on how artificial intelligence challenges our understanding of images in the news media.

Cross-disciplinary SHAPE lunch with Gabriel Torma, October 11

Presentation of the project VR2EASE - Planning a Virtual Reality Study on Renewable Innovation Perception.

Workshop: Social media in Indonesia: Trends and challenges, 5. October

Two-day hybrid workshop on the increasing influence of social media on Indonesian society, economy, and politics. Organized by Professor Nils Ole Bubandt in collaboration with KITLV and Stockholm University.

Processing Community Day - a day of code, art, and culture, September 30

Workshop in connection with the international event, PCD - Processing Community Day. With the theme "INFRA", the workshop at Artikektskolen in Aarhus focused on how technological infrastructures affect us humans. Organized by the Digital Activism project in collaboration with Code&Share.

Workshop: AI images at Systime: education and everyday use, September 28

The Center for Aesthetics of AI Images (AIIM) organized a workshop on how a publishing house like Systime relates to the many new possibilities for generating images using artificial intelligence.

Opening of the Center for Language Generation and AI (CLAI), September 20

Opening seminar for the Center for Language Generation and AI (CLAI) with the theme state-of-the-art for Large Language Models (LLM).

Legal seminar series #3: Digital administration, legal rule of law and data protection,

September 18. Presentations by the Danish Parliamentary Ombudsman, Niels Fenger, and Associate Professor and former Chief Legal Counsel at Vejle Municipality, Steen Jørgensen.

Cross-disciplinary SHAPE lunch with Lotte Philipsen, September 12

Presentation of the project AI's democratic potentials for visual art?

Seminar: Didactic Experiences with ChatGPT and More, September 8

The Center for Language Generation and AI (CLAI) organized a seminar on the didactic aspects of ChatGPT.

Guest researcher: Đorđe Krivokapić, September 7

In collaboration with CENSUS, Arts AU and the European university alliance Circle U., SHAPE welcomed Associate Professor and researcher in biometric mass surveillance, Đorđe Krivokapić.

ServPub workshop, June 26

Hybrid workshop on experimental and computational publishing, online and at the Creative Computing Institute, University of the Arts London.

Seminar: Internet and social media in the 2022 parliamentary election campaign, June 20

Center for Internet Studies presented the results of a questionnaire survey on the use of internet and social media during the 2022 parliamentary election campaign.

Legal seminar series #2: The Digital Development Lawyer, June 20

Presentations by CEO and Director of Digital Compliance, Charlotte Bagger Tranberg, and project manager and lawyer at Syddjurs Municipality, Henrik Bojsen and Vibeke Kahl, respectively.

Workshop: AI Art as Welfare Technology?, June 14

Center for Aesthetics of AI Images (AIIM) in collaboration with DokkX organized a workshop on the relationship between art and AI welfare technology.

Workshop: How can you use machine learning in your work, June 12

Series of workshops for academics on using machine learning at work in collaboration with DM – The Danish Association of Masters and PhDs, facilitated by postdoc Magnus Høholt Kaspersen.

Nordic STS Conference 2023, June 7-9

SHAPE participated at this year's Nordic STS Conference with a panel on sociotechnical data studies.

Workshop: How can you use machine learning in your work, May 22. Series of workshops for academics on using machine learning at work in collaboration with The Danish Association of Masters and PhDs - DM facilitated by postdoc Magnus Høholt Kaspersen.



Workshop: StudenterTing - Data, democracy and trust,

May 16

Student workshop on trust and democracy in a digitalized and datafied society with participants from several different disciplines at AU. Moderated by Postdoc Patrick Heiberg Kapsch and Associate Professor Peter Danholt.

Conference: Contentious Data, Algorithms, & Digital Activism, May 11-12

DEMINOVA LAB (AU) in collaboration with SHAPE organized a conference on data justice, algorithms, and digital activism.

Workshop: How to use machine learning in your job, May 3

Series of workshops for academics on using machine learning at work in collaboration with DM, facilitated by postdoc Magnus Høholt Kaspersen.

Workshop: AI Images and the Democratization of Art, May 3

The Center for Aesthetics of AI Images (AIIM) organized a workshop focusing on the commercialization of AI images and its consequences for the professional artist and artistic practice.

Legal seminar series #1: The impact of digitalization on law, April 26

Presentation by Professor at the Center for Legal Informatics (University of Oslo), Dag Wiese, and Professor at the Department of Law (Aarhus University), Bettina Lemann Kristiansen.

Cross-disciplinary SHAPE lunch with Marie Louise Tørring & Torben Esbo Agergaard, April 18

Presentation of The CAVA project: Comparing Adverse Vaccine Event Reporting - an interdisciplinary study of early 21st Century digital health citizenship in Denmark.

Seminar: Internet and social media in the 2022 parliamentary election campaign, April 24

The Center for Internet Studies presented the results of a survey on the use of internet and social media during the 2022 parliamentary election campaign.

Visiting researcher: Brit Ross Winthereik, March 31

Professor at the Department of Technology, Management and Economics at the Technical University of Denmark (DTU), Brit Ross Winthereik, visited SHAPE with a presentation on the digital state from the welfare recipient's point of view.

Cross-disciplinary SHAPE lunch with Bettina Lemann Kristiansen, March 9

Presentation of project on digital citizenship in a legal perspective.

Workshop: ml-machine.org, February 22

Postdoc Magnus Høholt Kaspersen facilitated a workshop on the platform ml-machine.org in collaboration with Open Lab at Dokk1.

Transmediale Research Workshop 2023: Toward a Minor Tech, February 2

Research workshop on 'minor tech' organized by the Digital Activism project in conjunction with the Transmediale festival in Berlin.

Visiting researcher: Arne Hintz, January 24

Associate Professor at Cardiff's University School of Journalism, Media and Culture and co-director of the Data Justice Lab, Arne Hintz, visited SHAPE with the presentation Digital Citizenship in a Datafied Society: Challenges and Opportunities for a Datafied Democracy.

Visiting researcher: Makoto Takahashi, January 17

PhD from Cambridge University, Makoto Takahashi, visited SHAPE with a presentation on Participation in Nuclear Emergencies (PINE).

EXTERNAL COLLABORATORS

In 2023, SHAPE has collaborated with a number of organizations, authorities, public institutions, and universities nationally and internationally.

Aalborg University

Aarhus International School (AIS)

Aarhus Municipality (ITK CityLab, Afdeling for Medborgerskab)

Aarhus University Hospital

Academy for Talented Youth (ATU, Region Midt)

ARoS Public

Art Hub Copenhagen

ATC

BBC micro:bit

Brown University

Center for Digital Citizenship (CDC, Roskilde Universitet)

Centralbibliotekerne

Centre for the Study of the Networked Image (London South Bank University)

Copenhagen Centre for Social Data Science (SODAS, Københavns Universitet)

Creative Computing Institute (University of the Arts London)

Danish Social Worker Association

The Danish Association of Masters and PhDs - DM

Dokk1

DokkX

DR – Danish Broadcasting Corporation

European University Institute

Faktabaari

Faktisk

George Washington University

In-Grid

IT University of Copenhagen

Källkritikbyrå

King's College London

University College Copenhagen

University of Copenhagen

KØN – Gender Museum Denmark

KPMG Future Experience

MASSHINE (Aalborg Universitet)

META

Norddjurs Municipality

Open Search Foundation

Pagella Politica

Roskilde University

Southeast Asian & Caribbean Images (KITLV) (Universiteit Leiden)

University of Southern Denmark

Systemserver

The Danish Academy of Technical Sciences (ATV)

TjekDet

Varia

VIA University College

Uppsala University

University of Bergen (UiB)

University of Amsterdam

University of Helsinki

RESEARCHERS

The list includes all researchers at Aarhus University who have participated in SHAPE's research activities in 2023.

Adela Sobotkova

Amanda Karlsson

Andreas Roepstorff

Anja Bechmann

Anne Odile Peschel

Antoinette Mary Fage-Butler

Anton Elias Holt

Asker Bryld Staunæs

Bettina Lemann Kristiansen

Carolina Sanchez Boe

Cathrine Hasse

Cecilie Eriksen

Christian Chrstrup Kjeldsen

Christian Dindler

Christian Ulrik Andersen

Christina Flesher Fominaya

Gabriele Torma

Hermes Arthur Hjorth

Ida Marie S. Lassen

Jacob Sherson

Jakob Linaa Jensen

Janet Frances Rafner

Jens Christian Bjerring

Jessica Aschemann-Witzel

Jessica Gabriele Walter

Jonas Frich

Karl-Emil Kjær Bilstrup

Kenneth Christian Enevoldsen

Kristoffer Laigaard Nielbo

Kristian Hvidtfelt Nielsen

Lasse Hansen

Lene Aarøe

Lene Kühle

Lindsay Weinberg

Line Have Musaeus

Lizette Vorster

Lotte Philipsen

Louise Bøttcher

Mads Rosendahl Thomsen

Magdalena Tyzlik-Carver

Magnus Høholt Kaspersen

Maj Nygaard-Christensen

Maja Hojer Bruun

Marianne Graves Petersen

Marie Koldkjær Højlund

Marie Louise Tørring

Marina Charquero Ballester

Marta Victoria

Mathias Holm Tveen

Michael Christensen

Midas Nouwens

Mikkel Rask Pedersen

Morten Breinbjerg

Morten Brænder

Morten H. Christiansen

Natalia Miranda

Nicholas Semi Haas

Nils Ole Bubandt

Ole Sejer Iversen

Pablo Velasco

Patrick Heiberg Kapsch

Per Andersen

Peter Dalsgaard

Peter Danholt

Peter Fazekas

Peter Lauritsen

Rebekah Brita Baglini

Renée Ridgway

Roberta Rocca

Ross Deans Kristensen-McLachlan

Stine Liv Johansen

Ulf Dalvad Berthelsen

Winnie Soon

Yen-Chieh Liao

Yuri Bizzoni

NEW RECRUITMENTS 2023

Mikkel Rask Pedersen, Postdoc, Digital Citizenship (November 2023)

Janet Rafner, AIAS-SHAPE fellow (September 2023)

Cecilie Eriksen, AIAS-SHAPE fellow (September 2023)

Lene Aarøe, AIAS-SHAPE fellow (September 2023)

Lindsay Weinberg, AIAS-SHAPE fellow (September 2023)

Nicholas Haas, AIAS-SHAPE fellow (September 2023)

Amanda Karlsson, Postdoc, The Invisible Men (TIM) (May 2023)

Michael Christensen, Postdoc, Digital Citizenship (April-November 2023)

Magnus Høholt Kaspersen, Postdoc, Digital Literacy and Machine Learning (February 2023)

Kirsten Brohm, Academic Employee (January 2023)

STUDENTS

Katarina Marie Hermansen, Student Assistant, Digital Citizenship (October 2023)

Sofie Pahuus Lassen, Student Assistant, Digital Citizenship (September 2023)

Caroline Gjørtsvang Kock, Student Assistant, Digital Citizenship (September 2023)

Julie Laura Risager, Student Assistant, Citizen engagement project in collaboration w. Aarhus Municipality (April – October 2023)

Lukas Oliver Lindgren, Student Assistant, Citizen engagement project in collaboration w. Aarhus Municipality (April – October 2023)

Ida Elmoose Brøcker, Student Assistant, Digital Technologies and Collective Behavior, March - April 2023)

Andreas Hyldegaard Hansen Student Assistant, Digital Technologies and Collective Behavior (March 2023)



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