# ethics of socially

disruptive technologies

2022 Annual Report

June 2023

Overview, research lines and tracks reports, output, researchers and budget information.

## Ethics of Socially Disruptive Technologies (ESDiT)

### NWO grant number: 024.004.031

www.esdit.nl

### @esditconsortium

# esdit

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## **Table of Contents**

Introduction	5
Summary	7
Reports from the research lines	13
Reports from the research tracks	15
Outreach and impact	19
Project reports 2022	21
Nature life & Human interventions	21
The human condition	23
The Future of a Fair & Free Society	28
Foundations & Synthesis	31
Reports from the Management	35
Budget status	40
Management team	41
All publications are available at: https://www.esdit.nl/publications/	41

# esdit

## Introduction

## **ESDIT 2022**

Welcome to the 2022 annual report of the Ethics of Socially Disruptive Technologies (ESDiT) research programme. The year of 2022 was a pivotal year for the programme, as it transitioned from a start-up phase to further growth and maturity. We expanded the number of research staff, strengthened our research lines and tracks, and had a very successful first ESDiT conference.

Initial published results came trickling in and a feeling has taken hold that we are making steady progress in meeting our research goals. The ESDiT community grew to close to a hundred researchers, including both regular members and affiliates, and in spite of this large number, a real community feeling has taken hold in the programme.

This report showcases our commitment to innovative research in the ethics of socially disruptive technologies. It shows our efforts to involve the best people, create community, engage in cutting-edge research, and make progress towards our research goals. It also displays our efforts to generate impact with our work and engage a variety of stakeholders in other disciplines and beyond the academy.

We are studying frontier technologies in such fields as artificial intelligence, neurotechnology and sustainable energy, we are collaborating with engineers to shape frameworks for responsible development of technology, and we are fostering ethical dialogue with various stakeholders. In doing so, we rely on invaluable support of our researchders, staff, and community.

As we continue to navigate this evolving terrain, ESDiT remains dedicated to a vision of a technologically advanced world that is founded on ethical principles that prioritize human and planetary well-being.

Thank you for joining us on this vital journey.

Sincerely,

Prof. Dr. Philip Brey ESDiT programme leader esdit



Information about the ESDiT consortium, governance & organization of research

## Summary

The NWO/OCW funded Gravitation programme Ethics of Socially Disruptive Technologies started in 2020. It is a research programme with seven Dutch participating universities, a combined budget of € 28 million and a running time of 10 years. The aim of the programme is to develop new theories and methods that are necessary to understand, morally assess and intervene in the development and implementation of the socially disruptive technologies of the 21st century.

This report comprises 2022. After the two strange years due to the COVID-19 pandemic we managed to organize in person meetings with the consortium members. Also we organized an international conference with renowned scholars from around the world. Consortium members were able to discuss their research face-to-face and exchange important insights. 2022 was a fruitful and energizing year.

## Consortium

In 2022 we hired an additional six PhD candidates and one Postdoc. By the end of 2022, almost seventy researchers had started collaborating in the programme, thirty-five of which are fully funded through the Gravitation grant (including the six Pl's) and another thirty-five who are partly funded by it (referred to as in-kind fellows).

The distribution of fellows over participating institutions is as follows:

Univesity/research fellow	funded	in-kind	total
Delft University of Technology	9	11	20
Eindhoven University of Technology	8	11	19
University of Twente	7	5	12
Utecht University	7	7	14
Wageningen University & Research	4	1	5
Total	35	35	70

These numbers reflect only those who dedicate research time to the programme. Another thirty researchers are connected to the programme in other ways, such as co-supervising PhD-candidates (referred to as associate fellows). We especially want to mention prof. Thomas Bäck (Leiden University) and prof. Nick Ramsey (UMC Utrecht), who contribute valuable expertise to the programme.

## Governance

The programme is managed by a Management Board, consisting of nine members. This Board is chaired by the programme leader (prof. Philip Brey). Day-to-day management has been delegated to the Daily Board, which consists of the programme leader, and two support staff members, namely a programme manager (Melanie Braamhaar MSc) and a project manager (Seeta Autar). The vice programme leader (prof. Sabine Roeser) receives all minutes of the Daily Board and provides input on the more strategic matters. There have been four changes in the composition of the Management Board of the consortium. Prof. Dr. Vincent Müller left Eindhoven University of Technology at the end of June 2022; Dr. Andreas Spahn joined the board as his replacement. Due the sabbatical of prof. Robeyns, dr. Sven Nyholm joined the board as her replacement. Prof. Peter-Paul Verbeek left ESDiT in October 2022 due to his new position as Rector Magnificus at the University of Amsterdam. We were able to replace him by Prof. dr. Joel Anderson, who got recently promoted to full professor at Utrecht University.

## Organization of research

The primary means for realizing these objectives are the four ESDiT research lines (RLs), together with synergy activities between the research lines and cross-cutting research tracks. While the research lines discuss social and conceptual disruptions in different (ontological) domains from a philosophical and moral point of view, the research tracks add additional lenses to these, allowing cooperation and synergy between the research lines.



Each of the research lines is led by two members of the Management Board. They are responsible for the scientific excellence of the research line and its integration into the overall research programme. In each of these lines, a tenure tracker is responsible for the day to day coordination. Each line meets approximately once every 6-7 weeks, and extra meetings may be scheduled for colloquia and reading groups.

Each of the tracks is led by one member of the Management Board. In each of these tracks, a tenure tracker is responsible for the day to day coordination. Each track meets approximately once monthly, and extra meetings may be scheduled for colloquia and reading groups.

In addition to setting up the meetings of the individual research lines, we have also started organizing plenary events that emphasize the programme's overarching themes. In 2022 the following consortium wide meeting were organized :

Workshop 18 March 2022	'NWO impact'
Consortium meeting 6 April 2022	'ESDiT novelties'
Away days 9-10 June 2022	
Workshop 19 September 2022	'Introduction workshop for new hires'
ESDiT 2022 Conference 6-7 October 2022	'International Conference - The Ethics of Socially Disruptive Technologies'
Annual Research Day 21 November 2022	'Conceptual disruption and multidisciplinarity'

We have organised interaction and coherence between the research lines in the following ways:

#### • Plenary research meetings and colloquia

Annually, we have four full-day plenary collaborative in-person meetings and four online colloquia.

#### Coordinator meetings

Coordinators of the research lines and tracks meet regularly to discuss strategies and collaboration on the ESDiT research goals, as do the postdocs in the programme.

#### • Postdoc council.

Postdocs from different research lines and tracks discuss research alignment at programme level.

#### Joint publications

We stimulate joint publications between members of different research lines, on shared ESDiT objectives.

#### • ESDiT book

We have initiated a joint ESDiT book on the major themes of the programme, which will be published in 2023.

#### • Biannual conference

In 2022, ESDiT had its first bi-annual conference, structured around the ESDiT objectives. Nearly all ESDiT members participated, along with over 120 other researchers from countries all over the world.

#### Slack and Obsidian

We have started using Slack and Obsidian as shared communication and research tools, to support collaborative research.

## Research collaboration using Obsidian

#### Lead: Prof. Dr. Joel Anderson

Within the ESDiT community, there is a widely felt need for better ways of coordinating our research activities and learning cumulatively from each other. In addition, because of the focus of ESDiT on technology's conceptual disruptions, we are also very interested in finding connections between key concepts and relating them to research lines and project groups – including their research questions, activities, and outputs.

There was a pilot attempt at the June 2022 Away Days, with 50 ESDiT members working collaboratively, where it became clear that the technology was not ready for the collaboration.

We invested in a smaller scale set of collaboration – with Obsidian sync accounts, but that also proved too cumbersome (with costs that couldn't be justified by the function-ality).

In the meantime, work continued on integrating the new statement of research aims into the Obsidian vault.

Overall, work was largely paused, pending both improvements to the Obsidian tool and the hiring and integration of a communications coordinator for ESDiT.



## Updated Reseach Strategy

During the start-up phase of the project, we have fine-tuned the objectives for ESDiT, and formulated the following key objectives:

#### 1. Understanding the disruptive effects of 21st century disruptive technologies

(Aim 4 in the original proposal).

#### 2. Understanding conceptual disruption

(Aim 2 in the original proposal).

## **3.** Developing new approaches for ethical assessment and guidance of socially disruptive technologies

(Aim 1 in the original proposal).

### 4. Developing new models of multi- and transdisciplinary research

(Aim 3 in the original proposal).

#### 5. Transformative engagement with practical philosophy

(Aim 2 in the original proposal).

The primary means for realizing these objectives are the four ESDiT research lines (RLs), together with synergy activities between the research lines and cross-cutting research tracks. While the research lines discuss social and conceptual disruptions in different (ontological) domains from a philosophical and moral point of view, the research tracks add additional lenses to these, allowing cooperation and synergy between the research lines.

# Line Reports

Report from the research lines and Report from the tracks

## **Reports from the research lines**

Each research line reported on the progress they had made in the year 2022

## The Human Condition

Leads: Prof. Dr. Joel Anderson en Prof. Dr. Wijnand IJsselsteijn

Coordinator: Dr. Janna van Grunsven

**Objective:** To study how socially disruptive technologies (SDTs) disrupt the human condition and human self-understanding, and concepts related to these.

**Past actions and events:** Five PhD and two postdoc projects were initiated to examine how emerging technologies such as brain-computer-interfaces, digital communication technologies, social robots and machine learning used for psychiatric diagnostics bear on concepts such as personhood, empathy, human well-being, and the human mind and body.

**Results:** The projects have shed significant light on how ableist assumptions are often built into normative conceptions of the human and how this gets operationalized as well as disrupted in technology, contributing to an account of technology-mediated diversity. Furthermore, a transdisciplinary collaboration between several members of our line, a range of stakeholders, and Dutch designer Lisa Mandemakers has deepened our understanding of the potential disruptive effects of the artificial womb, for instance on concepts related to the beginning of life.

Members of the research line are presented on the website: <u>The Human Condition</u>

## Nature, Life & Human Intervention

Leads: Prof. Dr. Ibo van de Poel en Dr. Vincent Blok

Coordinator: Dr. Bernice Bovenkerk

**Objective:** To understand the philosophical and ethical impacts and implications of SDTs for nature, and the concepts disrupted by these technologies.

**Past actions and events:** We identified two SDTs (geoengineering and synthetic biology) to study the disruption of SDTs for nature. Based on PhD reading groups, six-weekly meetings with workshops on particular concepts (nature, control, climate justice) and sessions with internationally renowned speakers (e.g. Steve Vogel, Clive Hamilton), we operationalized the objectives of the nature line in three main research topics:

- **1.** Nature of control and our control of nature;
- 2. The concept, moral status and value of nature;
- 3. Responsibility for and the nature of human, animal and environmental flourishing.





In addition, we started particular new projects to serve this research agenda (e.g. biomimetic and water technologies).

**Results:** Important progress has been made in the area of topic 1 & 2, with several journal articles on the way arguing that SDTs (e.g geo-engineering, synthetic biology) not only challenge our current concepts (e.g. control, nature), but also provide opportunities to progressively revise concepts (e.g. hybrids as regenerative design). The collaboration with the synthesis line resulted in new empirical insights on how emerging climate- and biotechnologies contribute to conceptual change.

Members of the research line are presented on the website: <u>Nature, Life & Human Intervention</u>

## The Future of a Fair & Free Society

Leads: Prof. Dr. Sabine Roeser



Coordinators: Dr. Patrik Hummel and Dr. Emily Sullivan

**Objective:** To study the effects of SDTs on politics, society, and social institutions, and to assess how we can realize and adjust normative ideas in the context of SDTs.

**Past actions and events:** Projects and reading groups were initiated on how concepts such as democracy, social justice, freedom, control, and solidarity are disrupted and reconfigured particularly in three engineering fields: machine learning, social media, and climate change. Specific events of note include: a writing retreat for society line members to work on collaborative projects; an open colloquium with Prof. Sandra Wachter (Oxford); and a joint workshop with the nature line.

**Results:** The society line has made substantial progress on understanding the ethical and political issues raised by new digital and sustainable technologies, particularly their effects on democracy and justice. Members of the society line have also made significant contributions to knowledge utilization efforts such as media appearances, panel discussions with industry and within the EU parliament and through membership of policy advisory boards.

Members of the research line are presented on the website: <u>The Future of a Fair & Free Society</u>

## Foundation & Synthesis

Leads: Prof. Dr. Philip Brey

Coordinators: Dr. Michael Klenk

**Objective:** To investigate the nature of socially disruptive technologies, the nature of conceptual change and disruption, and new methods in ethics.



#### Past actions and events:

**1.** Moral revolutions reading group, including a workshop with

Robert Baker (author of the book The Structure of Moral Revolutions), and two collaborative articles that developed a new perspective on

the technology's role in moral change;

**2.** A conceptual change reading group, resulting in joint work on conceptual change and disruption;

**3.** Four international workshops and conferences in the Netherlands with leading researchers from the conceptual change and engineering community;

**4.** International collaboration with research groups in Dresden, the German Science Foundation, and Oxford;

**5.** Regular collaborations with other research lines in the form of educational offerings (e.g. PhD seminars) and internal reports (e.g. about key emerging socially disruptive technologies).

**Results:** Substantial progress on how to understand the notion of socially disruptive technologies, the types of impacts of socially disruptive technologies, the relationship between technology and conceptual disruption and change, and mechanisms by which technologies may contribute to moral change.

Members of the research line are presented on the website: <u>Foundation & Synthesis</u>

## **Reports from the research tracks**

Each research track reported on the progress they had made in the year 2022

## Intercultural Track

Leads: Prof. Dr. Ingrid Robeyns

Coordinators: Dr. Elena Ziliotti

This track was formed to ensure engagement with non-western philosophical perspectives. It aims to understand how different cultural perspectives influence views on technology and what a moral assessment of SDTs would look like when the intercultural dimension of ethics of technology is taken into account. The intercultural track hosts four reading groups, organises talks of external speakers, and workshops together with the research lines, including an online international conference on Intercultural Ethics and Technology in 2022.

Members of the research line are presented on the website: <u>Intercultural Track</u>



## Social media platforms as disruptive epistemic environments

#### Dr. ir. Lavinia Marin

**Goal:** This project aims to answer the following research questions: i) What are the features of an epistemic environment that promotes the epistemic flourishing of its inhabitants? ii) How should we conceptualise the epistemically disruptive role of social media platforms? Iii) How do social media platforms shape the user's epistemic agency? Iv) What kind of designed affordances and scaffolds would make social media platforms conducive to knowledge sharing? V)What kind of designed affordances and scaffolds repistemic virtues for the users of social media platforms? Vi)What is the role of emotions in fostering epistemic practices online?

**Progress:** The work in this project resulted in several papers. One of these papers reconceptualizes the virtue/competency of critical thinking through a relational lens using intellectual autonomy. Another paper was published which is relevant for assessing the disruptive potential of social media platforms as epistemic environments that de-skill their users.

Lavinia Marin & Samantha Marie Copeland (2022) Self-Trust and Critical Thinking Online: A Relational Account, Social Epistemology, <u>https://doi.org/10.1080/02691728.2022.2151330</u>

Marin, L. How to Do Things with Information Online. A Conceptual Framework for Evaluating Social Networking Platforms as Epistemic Environments. Philos. Technol. 35, 77 (2022). <u>https://doi.org/10.1007/s13347-022-00569-5</u>

Hopster JKG, Löhr G. (2023). Conceptual Engineering and Philosophy of Technology: Amelioration or Adaptation? Philosophy & Technology 36(70): 1-17. <u>https://doi.org/10.1007/s13347-023-</u> <u>00670-3</u>

## STEM Track (Science, Technology, Engineering and Mathematics)



Leads: Prof. Dr. Wijnand IJsselsteijn

#### Coordinators: Dr. Matthew Dennis

This track fosters interdisciplinary and transdisciplinary research on socially disruptive technologies. It does so by establishing links between relevant partners involved in STEM innovations and ESDiT researchers.

For instance, we established a sustained connection with the <u>Hybrid Intelligence Centre</u> (HI) (a sister Gravitation research consortium, focused on Artificial Intelligence), through presentation series, workshops, reading groups, and collaborative research.

As part of the STEM track, we have implemented a living labs initiative, which focuses on developing new methods and approaches that connect ethical and philosophical investigations with engineering.

It does this by collaborating with existing living labs in the Netherlands. Since early 2022, ESDiT has collaborated with the <u>Responsible Sensing Lab</u> (RSL), and a formal agreement is in preparation as a basis for prolonged collaboration. Members of the research line are presented on the website: <u>STEM Track</u>

## Autonomy and smart mobility

### Dr. Julia Hermann

**Goal:** This project aims to answer the following research questions: i) How does a smart system steering traffic in the city based on collective values affect car drivers' experience of autonomy? ii) How can we study this by letting participants interact with speculative prototypes and ask questions to them?

**Progress:** Two workshops on autonomy and mobility were held in collaboration with AMS-Institute and Municipality of Amsterdam. An empirical study was developed that in planned to run in November 2023. Insights were obtained in transdisciplinary collaborations and ways of working, and two additional projects are planned with the same collaboration partners (city of Amsterdam and AMS Institute)

## Art Track

Leads: Prof. Dr. Sabine Roeser

Coordinators: Dr. Aafke Fraaije and Dr. Julia Hermann

This track was established at the beginning of 2023 to facilitate research on the interplay between art and the ethics of disruptive technologies. The art track stimulates research on technology engaged art, transdisciplinary research, and collaboration with artists, organises meetings and events, and plans to produce an ESDiT exhibition.

Members of the research line are presented on the website: <u>Art Track</u>





## The disruptive potential of the artificial womb

#### Dr. Julia Hermann

**Goal:** This project aims to answer the following research questions: i) How might ectogestative (or: artificial womb) technology disrupt concepts such as "mother", "father", "parent", "family", and "birth"? ii) How might it disrupt gender roles? iii) How might it disrupt parenting practices? Iv)What are possible ethical, legal, social, and political implications of this technology?

**Progress:** This project resulted in several workshops and publications. Installations were done at the held at the Dutch Design Weeks of 2021 and 2022, and workshops were held at the DesignLab in February 2022 (with national stakeholders and experts), and online workshop in April 2022 with international stakeholders and experts. In addition an ESDiT podcast episode was produced, a PEPTalk was held and the ESDiT book chapter "Ectogestative Technology and the Beginning of Life" was written. Several other papers are in progress.

Frank, L.E., Hermann, J., Kavege, L. & Puzio, A. (2023). Ectogestative Technology and the Beginning of Life. In L. van de Poel, L. Frank, J. Hermann, J. Hopster, D. Lenzi, S. Nyholm, B. Taebi, & E. Ziliotti (Eds.), Ethics of Socially Disruptive Technologies: An Introduction (pp. 113-140). Open Book Publishers. <u>https://doi.org/10.11647/obp.0366.05</u>

## **Outreach and impact**

Our current research has great relevance for society, since new disruptive technologies will have a major role in shaping the 21st century; it is therefore imperative for societal actors to engage in ethical reflection on how to develop and implement these technologies responsibly. Consequently, we are keen to have an extensive dissemination and knowledge transfer strategy, including communication channels and outreach activities.

ESDiT got its own Twitter account, with a reach of over 699 followers by the end of the year.

During 2022 the website was continuously updated with the research carried out by the ESDiT programme members, as well as events and public outreach such as the ES-DiT podcast.

## ESDiT Podcast

The ESDiT-podcast contains a growing collection of interviews conducted amongst ESDiT-researchers. Each episode discusses a recent paper published by an ESDiTmember, with the aim of reaching out to colleagues in the consortium as well as the broader academic community.

ESDiT Podcast 2022 Episodes:

- Matthew Dennis on "Digital Wellbeing" (16th of January, 2022)
- Behnam Taebi on "Climate Risk and Normative Uncertainties" (28th of March, 2022)
- Steven Kraaijeveld on "Experimental Philosophy of Technology" (16th of June, 2022)
- Benjamin Hofbauer on "Geo-engineering and Techno-moral Change" (20th of June, 2022)
- Dina Babushkina on "Disruption, Technology, & the question of (Artificial) Identity (27th of June, 2022)
- Sabine Roeser on "Technological Risk, Emotions, and Art" (4th of July, 2022)
- Lucie White on "Were Lockdowns Justified" (11th of July, 2022)

# Project Reports

Reports from the individual projects per research line

## Project reports 2022

Each project reported on the progress they had made in the year 2022

## **Nature life & Human interventions**

# Philosophical and ethical implications of biomimetic technologies

#### Alessio Gerola

**Goal:** The aim of the project is to reflect on the implicit conceptual and normative assumptions about nature, imitation, and technology that drive different biomimetic design trends. At stake are the ambiguity of biomimetic design in relation to the risk of replacing nature with an artificial copy, and its potential and limits as a paradigm for sustainable technology.

**Progress:** This project reflects on the philosophical and ethical implications of bioinspired technologies. The first article provided an analytical grid that enables the classification of different bioinspired and biomimetic approaches and technologies based on their conceptual and normative assumptions about nature and mimesis. In addition, together with other colleagues of the Nature Line and the Synthesis Line an article was prepared on the disruption of conceptions of nature and naturalness due to various emerging technologies, such synthetic biology, geoengineering, and biomimicry.

Alessio Gerola, Zoe Robaey and Vincent Blok. What Does it Mean to Mimic Nature? A Typology for Biomimetic Design. Philos. Technol. 36, 65 (2023). <u>https://doi.org/10.1007/s13347-023-00665-0</u>

Jeroen Hopster, Alessio Gerola, Ben Hofbauer, Guido Löhr, Julia Rijssenbeek and Paulan Korenhof, 'Who owns 'Nature'?'. Forthcoming in *Environmental Values*, accepted 21/7/2023

## The social and moral complexities of water recycling

#### Karen Moesker

**Goal:** The primary objective of this project is to comprehend the intricate social and moral aspects of water recycling technologies like DPR. By doing so, the aim is to gain deeper insights into how to address concerns about acceptance, acceptability, and desirability within ongoing debates surrounding the sustainable implementation of such water recycling technologies.

**Progress:** Activities so far focussed on understanding the disruptive effects of 21st century disruptive technologies and developing new approaches for ethical assessment and guidance of socially disruptive technologies. Besides, work is ongoing on developing new models of multi- and transdisciplinary research, and on transformative engagement with practical philosophy.

## Disrupting Finitude: Flourishing and Nature

#### Dr. Lorina Buhr

**Goal:** The aim of this postdoc project is to investigate the research question: "To what extent are disruptions of finitude detrimental to the flourishing of animals, humans, or the natural world, and how do related technologies challenge our understanding of irreversibility, finitude and flourishing?"

**Progress:** To achieve the goals of this project, four tracks were set up: A) Interdisciplinary study of the concept of irreversibility, consisting of systematic literature review of the use of the concepts of irreversibility and tipping points in research on human-induced environmental changes, in collaboration with colleagues from Environmental Sciences, Physics and Climatology; B) Analysis of the ontological dimensions of extinction and de-extinction technologies; C) Analysis that examines Anthropocene technologies using the category of ir/reversibility, with a particular focus on technologies for glacier protection, a topic that so far has been largely neglected in philosophy and ethics of technology; D) Aesthetic-social analysis of finitude in nature and media technologies that document finitude in nature, with a particular focus on photography of retreating mountain glaciers. For each of these tracks presentations were given on preliminary results, argumentations and/or introduction of the topics, and several papers are in preparation.

Behnam Taebi, Dominic Lenzi, Lorina Buhr, Kristy Claassen, Alessio Gerola, Ben Hofbauer, Elisa Paiusco, and Julia Rijssenbeek. "4. Climate Engineering and the Future of Justice," in: Ibo van de Poel et al. (ed.), Ethics of Socially Disruptive Technologies. An Introduction, 2023, 83–112. https://doi.org/10.11647/obp.0366.04.

Lorina Buhr (in preparation), 'Picturing finitude. Photography of mountain glaciers as a multiple practice of dealing with environmental loss', Environmental Values, 2024

## Governance of geoengineering in the face of normative uncertainties

#### Benjamin Hofbauer

**Goal:** The objective of this project is to develop a fine-grained conceptualization of normative uncertainties, while identifying and developing risk governance approaches that are most suitable for dealing with these uncertainties.

**Progress:** A variety of approaches and frameworks are employed to answer the overarching research question: 'How should the desirability of researching Stratospheric Aerosol Injection (SAI) be assessed, given its potentially highly disruptive effect on institutions, societal values and norms, as well as the physical environment?', as well as to understand and ethically account for the risks and uncertainties that solar climate engineering research invokes.

Benjamin Hofbauer (2023) Normative Uncertainty in Solar Climate Engineering Research Governance, Ethics, Policy & Environment, <u>https://doi.org/10.1080/21550085.2023.2216148</u>

Martin Sand, Benjamin P. Hofbauer, and Joost Alleblas. "Techno-Fixing Non-Compliance - Geoengineering, Ideal Theory and Residual Responsibility." Technology in Society 73 (May 2023):

#### 102236. https://doi.org/10.1016/j.techsoc.2023.102236

Claudia E Wieners, Ben P Hofbauer, Iris E De Vries, Matthias Honegger, Daniele Visioni, Hermann W J Russchenberg, and Tyler Felgenhauer. "Solar Radiation Modification Is Risky, but so Is Rejecting It: A Call for Balanced Research." Oxford Open Climate Change 3, no. 1 (February 14, 2023): kgad002. <u>https://doi.org/10.1093/oxfclm/kgad002</u>

## Synthetic life and living technology – transcending dichotomies with synthetic biology

#### Julia Rijssenbeek

**Goal:** This project focusses on the following research questions: "What is the ontological and ethical status of hybrid entities deriving from synthetic biology often referred to as 'living machines', 'cell factories', 'artificial life', or 'living technology'?", and "How are key values like naturalness and sustainability affected by the disruption brought about by biotechnology and more specifically synthetic biology, as it promises to disrupt multiple domains ranging from agriculture and food to medicine and construction? "

**Progress:** Sofar, project activities have resulted in two conference presentations and two publications, with more work in preparation.

Jeroen Hopster, Alessio Gerola, Ben Hofbauer, Guido Löhr, Julia Rijssenbeek and Paulan Korenhof, 'Who owns 'Nature'?'. Forthcoming in Environmental Values, accepted 21/7/2023

Julia Rijssenbeek, Vincent Blok, Zoe Robaey. Metabolism Instead of Machine: Towards an Ontology of Hybrids. Philos. Technol. 35, 56 (2022). <u>https://doi.org/10.1007/s13347-022-00554-y</u>

## The human condition

## Brain-computer interfaces & the disruption of the concept of personhood

#### Bouke van Balen

**Goal:** The aim of this project is to answer the following research question: how do BCIs disrupt assumptions about where and how we can (or even should) demarcate something as ontologically and ethically significant as personhood? As a secondary objective, the project will contribute to new interdisciplinary approaches and methods at the intersection of STEM disciplines and ethics/philosophy. Moreover, insights gained from the project are likely to ethically inform the ongoing design of current and future BCI technologies.

**Progress:** The first period of this project was spent on preparing a research proposal, and on obtaining ethical approval for empirical research into the lives of people with severe communication problems due to paralysis. Besides, a paper was published on the concept of communication 'restoration' as it is used in the neuroscientific literature

about Brain-Computer Interfaces, arguing that it differs from a phenomenological account of communication and misses out on embodied, relational, and social aspects of communication. Also, a book chapter was prepared, which argues that the field of augmentative and alternative communication technology (AAC-tech) and the experiences of people who use these technologies can inform phenomenological philosophy about embodied communication, and that the field of AAC-tech can learn from phenomenology to inform the design of future communication devices that suit the communication needs of individuals with communication impairments.

van Balen, B., van Grunsven, J., Vansteensel, M., & IJsselsteijn, W. (2023). Brain Computer Interfaces: Kunnen breincomputers een stem geven aan niet-sprekenden? Wijsgerig Perspectief op Maatschappij en Wetenschap, 63(1), 16-23. Article 2. <u>https://www.filosofie.nl/brain-computer-interfaces/</u>

van Grunsven, J., van Balen, B. & Bollen, C. (forthcoming). Three Embodied Dimensions of Communication: Phenomenological Lessons for and from the Field of Augmented and Alternative Communication Technology. In de Boer, B. & Zwier, J. (Ed.). Phenomenology and the Philosophy of Technology.

In this book chapter, we argue that the field of augmentative and alternative communication technology (AAC-tech) and the experiences of people who use these technologies can inform phenomenological philosophy about embodied communication. Besides, we argue that the field of AAC-tech can learn from phenomenology to inform the design of future communication devices that suit the communication needs of individuals with communication impairments. We work from the experiences of AAC-users, also using interviews that were conducted by one of the authors. As such, it relates to objectives 1 (Understanding the disruptive effects of 21st century disruptive technologies), 3 (Developing new approaches for ethical assessment and guidance of socially disruptive technologies) and 4 (Developing new models of multi- and transdisciplinary research).

## Philosophical anthropology research

#### Dr. Anna Puzio

**Goal:** This project will study how new and emerging technologies – biotechnologies, digital technologies, robots, and/or climate technologies – have implications for our ontological and ethical understanding of the human being. The project deals with the question of how the understanding of the human being changes in the context of new technologies.

**Progress:** It was found that new approaches in anthropology are needed, with New Materialism as a new approach. Furthermore, there seems to be a lack of diversity in health technologies. How to embrace diversity? Also, work was done on the transformation of the concept of the human being and the body through technology, and it was studied that our interconnectedness and relationships with non-human entities disrupt our ethical concepts. Several collaborative papers were started on robot ethics and ethics of health technologies (not published yet), and chapters on anthropology and ethics of technology in contributed volumes were finalized (not published yet). Besides, contributions were provided to 2 chapters of the Esdit book (social robots and artificial womb), conference organisation on robot ethics and the body, and many international media contributions.

## Emerging technologies and the moral character of the human being

#### Kristy Claassen

Note: title in the progress report is 'Being Human: Ubuntu and AI' – which is different from the title on the website.

**Goal:** A defining characteristic of the African Philosophy of Ubuntu is that we become human through others. As the proverb goes, 'I am, because we are' (Mbiti 1990). How, then, do technologies that claim to be socially disruptive fit into this moral framework? The aim of this project is to investigate how the moral character of the human being is affected by emerging technology within the ontological (Ramose 1999) and ethical (Metz 2007) framework of Ubuntu. The secondary aim is to explore the way in which human-technology relations are redefined within Ubuntu parameters.

**Progress:** This project focusses on the research question 'How do Socially Disruptive Technologies (SDTs) disrupt concepts and values central to African understandings of what it means to be human?'. The first article "There is no I in postphenomenology" is currently under review at the journal Human Studies. A contribution on non-Western perspectives was provided to the chapter 'Climate Engineering and the Future of Justice' in the book 'The Ethics of Socially Disruptive Technologies: An Introduction.'

Kristy Claassen, Behnam Taebi, Dominic Lenzi, Elisa Paiusco, Lorina Buhr, Alessio Gerola, Ben Hofbauer, Julia Rijssenbeek. 4. Climate Engineering and the Future of Justice," in: Ibo van de Poel et al. (ed.), Ethics of Socially Disruptive Technologies. An Introduction, 2023, 83–112. <u>https://doi.org/10.11647/obp.0366.04.</u>

## The Ethics of Humanoid Robots

#### Cindy Friedman

**Goal:** The aim of this PhD project is to investigate the ethics of "humanlikeness" in robots and AI, with a special focus on how this might (re)shape our ideas of our own humanity and especially the moral status of our own humanity.

**Progress:** In 2022, the paper "The ethics of replacing human relations with humanoid robots: an ubuntu perspective" was published which arguing that humanoid robots (with which we relate as if they are human) could stunt our moral development should we allow them to replace human beings in the context of inter-personal relationships. In 2023, the paper "Granting negative rights to humanoid robots" was published which challenges those who are sceptical about granting humanoid robots moral status and rights. Work is ongoing to complete the paper "Artefacts of change: three ways in which humanoid robots disrupt our human relational experiences". This paper argues that humanoid robots may disrupt three kinds of human relational experiences: (1) the way in which we relate to technology; (2) the way in which we relate to other people; and (3) the way in which we relate to ourselves. Another paper is in preparation that investigates robot moral status using an approach inspired by African philosophy.

Cindy Friedman. Ethical concerns with replacing human relations with humanoid robots: an ubuntu perspective. AI Ethics 3, 527–538 (2023). https://doi.org/10.1007/s43681-022-00186-0 Cindy Friedman. Granting Negative Rights to Humanoid Robots. Frontiers in Artificial Intelligence and Applications 366 (145-154) 10.3233/FAIA220613. <u>https://ebooks.iospress.nl/</u> <u>doi/10.3233/FAIA220613</u>

## Ethics of Data-Driven Mental Health Diagnostics

#### Anna van Oosterzee

**Goal:** This project aims to investigate the following cluster of questions: What ethical concerns are raised by integrating data-driven analytics and translational bioinformatics into psychiatric diagnoses? What implications does the highly personalized character of these computational approaches have for reconceptualizing what is "normal" for human beings? How should these concerns shape these emerging technologies' regulation and ongoing design in this highly contested domain?

**Progress:** The project explored the question 'Can AI tell us if we are depressed?' and work was done on the problems with low predictive validity in supervised machine learning for psychopathological classifications. This resulted in two conference presentations.

## Behaviour change technologies for moral improvement

#### Dr. Matthew Dennis

**Goal:** This project aims to explore the morally disruptive potential of behaviour change technologies for moral behaviour that is, technologies that can be used to improve moral cognition or moral decision making.

**Progress:** The project focusses on the research questions 'How do online technologies affect well-being and human flourishing? How can philosophical insights from the ethics of technology improve how we design future digital technologies?'. A book and several articles were published, a.o. on how intercultural philosophy can help us i) understand factors affecting digital well-being more deeply and ii) indicate ways that online technologies can be designed to support human flourishing; and on how a designing for values approach can mitigate the disruption caused by unpredictable events, such as pandemics.

Book:

M. J. Dennis, J. van den Hoven, G. Isamaev, S. Umbrello (eds.) (2023). Values for a Post-Pandemic Future. Philosophy of Engineering & Technology series. New York: Springer Publishing. <u>https://link.springer.com/book/10.1007/978-3-031-08424-9</u>

#### Articles:

Aizenberg, E., Dennis, M.J. & van den Hoven, J. Examining the assumptions of Al hiring assessments and their impact on job seekers' autonomy over self-representation. Al & Soc (2023). https://doi.org/10.1007/s00146-023-01783-1 A. T. M. Archer (1st author) & M. J. Dennis (2023). 'Exemplars & Expertise: What We Cannot Learn from Saints and Heroes.' Inquiry: Journal of Interdisciplinary Philosophy <u>https://doi.org/10.1080/0020174X.2023.2196681</u>

M. J. Dennis & E. Ziliotti (2022). 'Living Well Together Online: Digital Well-Being from a Confucian Perspective.' Journal of Applied Philosophy. <u>https://doi.org/10.1111/japp.12627</u>

Steinert, S., Dennis, M.J. Emotions and Digital Well-Being: on Social Media's Emotional Affordances. Philos. Technol. 35, 36 (2022). <u>https://doi.org/10.1007/s13347-022-00530-6</u>

Dennis, M.J., Clancy, R.F. Intercultural Ethics for Digital Well-Being: Identifying Problems and Exploring Solutions. DISO 1, 7 (2022). <u>https://doi.org/10.1007/s44206-022-00006-2</u>

A.T.M. Archer, M. Alfano, M. J. Dennis (2021). 'On the Use and Abuse of Celebrity for Pandemic Response.' Social Epistemology. <u>https://doi.org/10.1080/02691728.2022.2153351</u>

Dennis, M.J. Towards a Theory of Digital Well-Being: Reimagining Online Life After Lockdown. Sci Eng Ethics 27, 32 (2021). <u>https://doi.org/10.1007/s11948-021-00307-8</u>

## Empathy, communication technologies, and neurodiversity

#### Caroline Bollen

**Goal:** In this PhD project, a new concept of empathy is being developed that that is inclusive to autistic empathic experiences, and one that can be used to (normatively) reflect on the impact of technology on the way we relate to one another. This is being done on different levels: empathy as a concept in moral theory, empathy as mediated by communication technologies, and the specific case study of empathy as mediated by Augmentative and Alternative Communication (AAC) Technologies.

**Progress:** The project started with an interdisciplinary systematic review on empathy definitions and methodological operationalizations as used in research on autism and empathy, followed by exploring these in depth and introduction of the phenomenon neurotypical gatekeeping of empathy, arguing for the need to revise the concept and why this needs to be a normative one. Through conceptual engineering, a sketch was developed of such a revised account of empathy, introducing the concepts proximism and distantism, and empathy as the balance between the two. Expanding on this proposal and making use of virtue theory, a more detailed in-depth account of empathy 2.0 was built. Subsequently, framework was developed that can be used to evaluate and design communication technologies (CTs) for empathy, and work was done on applying this framework to a specific subset of CTs: Alternative and Augmentative Communication (AAC) technologies. Book:

Caroline Bollen, A reflective guide on the meaning of empathy in autism research, Methods in Psychology, Volume 8, 2023. <u>https://doi.org/10.1016/j.metip.2022.100109</u>

Bollen, C. (2023). Towards a Clear and Fair Conceptualization of Empathy. Social Epistemology, 37(5), 637-655. <u>https://doi.org/10.1080/02691728.2023.2227963</u>

## The techno politics of the climate movement

#### Patricia Reyes Benavides

**Goal:** This research analyses the use and appropriation of Internet platforms by environmental activists. By bridging philosophy of technology to political theories, connections are drawn between Internet-enabled Climate Activism Networks (e.g. Extinction Rebellion, Fridays for Future, Futuros Indígenas) to new technopolitical regimes. This approach aims to show the political significance of technologies in the evolution of social and ecological movements.

**Progress:** The project addresses the following research questions: How does the Internet mediate the experiences and actions of climate activists?; How does the Internet mediate the political ontology of the climate movement?; How is the Internet disrupting climate activists' conceptualization of nature, and political authority?. Several publications are prepared or forthcoming, a.o on how technologies (in this case, the Internet) disrupts the concept of Nature, and with a discussion of the role of Intercultural ethics in understanding the Internet-enabled climate movement.

Ziliotti, E., Reyes Benavides, P., Gwagwa, A. and Dennis, M., (2023) 'Social Media and Democracy.' in: Ibo van de Poel et al. (ed.), Ethics of Socially Disruptive Technologies. An Introduction, 2023, 33–52. <u>https://doi.org/10.11647/OBP.0366.02</u>

Reyes Benavides, P.D. (forthcoming). On the Nature of 'Authority' and the Authority of 'Nature.' In The Political Dimension of Nature: An Intercultural Critique, ed. Abbed Kanoor. Metzler.

Reyes Benavides, P. (forthcoming). Mediated Encounters with Nature. Ethics and Information Technology.

Reyes Benavides, P.D. and Gertz, N. (forthcoming). Crime without Punishment? On the legitimacy of illegal actions from the climate movement. Filosofie en Praktijk.

## The Future of a Fair & Free Society

## Art for Climate Solidarity

#### Dr. Aafke Fraaije

**Goal:** This project will study how artworks can contribute to fostering empathy, care, and solidarity in times of climate crisis.

**Progress:** Sofar, the project resulted in identification ed several ways in ways 'solidarity' (or, similarly, our capacity to 'empathize' and 'care) is challenged and disrupted in times of climate crisis (with humans living in different parts of the world, across generations, with the more-than-human, in face of affective polarization). Also, several mechanisms are being identified through which artworks try to foster empathy, care, and solidarity in times of climate crisis. It was investigated what types of studies are currently already being undertaken to study the contribution of art to the climate debate and what hypotheses are currently still understudied, and it was found that 'parental care' is a common but problematic framing of environmental ethics, and art projects try to problematize and discuss this framing (planned publication).

A project was started on how art can be used to foster empathy, and 'caring at a distance', in engineering ethics education, and empirical cases and research partners to investigate in practice the contribution of art to fostering solidarity in times of climate crisis are being collected.

van der Meij, M. G., Fraaije, A., Broerse, J. E. W., & Kupper, F. (2023). Guiding visions of corporate smart city innovators: identifying opportunities for participatory futuring. Futures, 103269. <u>https://doi.org/10.1016/j.futures.2023.103269</u>

Aafke Fraaije & Steven M. Flipse (2020) Synthesizing an implementation framework for responsible research and innovation, Journal of Responsible Innovation, 7:1, 113-137, <u>https://doi.org/10.1080/23299460.2019.1676685</u>

## Towards a Just Implementation of Carbon Dioxide Removal: A Capabilities Approach

#### Elisa Paiusco

#### Report taken from folder Dominic Lenzi (supervisor of this project)

**Goal:** This project aims to develop a unique, action-guiding account of intergenerational justice that can be applied to the specific intergenerational issues and assumptions of carbon dioxide removal techniques (CDR). It will also explore the extent to which the specific issues raised by intergenerational justice in climate policy will lead us to revise or create new theoretical understandings of core normative concepts and commitments. To what extent to does adopting an intergenerational perspective require a revision of important distinctions or theories in political philosophy? Similarly, the project will also explore the extent to which our ethical and political concepts may need to be revised in to make them more readily translatable into public policy.

**Progress:** The project work resulted in a first manuscript entitled "A Capabilities Approach to Carbon Dioxide Removal". It i) sketches how the latest ethical debate has investigated the role of CDR in mitigation pathways compatible with sustainable development; ii) clarifies why a capabilities approach can provide greater conceptual clarity to sustainable development goals' justice demands and can elucidate the role of carbon removal in mitigation; and iii) suggests that capabilities as the metric of justice can be operationalized to design and implement mitigation policies according to whether they secure or harm individual minimal threshold levels of capabilities. A second paper is in preparation, titled "A multispecies justice approach to nature-based carbon dioxide removal". It argues for a closer integration of non-human concerns in environmental ethics.

# Electoral Technologies and democracy in global perspective

#### Arthur Gwagwa

**Goal:** The project seeks to investigate to what extent new electoral technologies necessitate rethinking normative assumptions about the legitimate basis for confidence in electoral outcomes and trust in democratic institutions, particularly in light of two (potentially) disruptive effects of these technologies.

## Confucianism and Ethics of Technology

#### Joseph St. Maria

**Goal:** This project will use Confucian philosophy as a conceptual resource in answering how people can flourish in a world that is being increasingly proliferated by digital technologies. It will use a Confucian-inspired framework for human flourishing drawn, from the Great Learning, (Da Xue 大學) to organize its inquiry. This framework identifies four spheres of relations that constitute a good or flourishing life. These are the spheres of the "self," the "interpersonal," the "political," and the "world." For each of these spheres, a digital technology shall be investigated. Specifically, an ethical issue about that technology will be explored. The project shall then assess the issue through a Confucian lens and propose practical recommendations, with the goal of addressing the issue in a way that can improve the digital good life or well-being.

**Progress:** The project explored how Confucian philosophy can be applied to evaluating and mitigating the toxic behaviors engendered by multiplayer online video games. The results were published in a co-written article (with Elena Ziliotti) in the Journal of Confucian Philosophy and Culture. Furthermore, a co-written paper (with Matthew Dennis) was drafted on how to apply Confucian philosophy to the issue of "McMindfulness" as it exists in meditation apps, which was submitted to Philosophy & Technology journal.

Sta. Maria, J. E., & Ziliotti, E. (2022). Addressing Online Gaming Toxicity from a Confucian Perspective. Journal of Confucian Philosophy and Culture, 38, 131–152. <u>https://doi.org/10.22916/jcpc.2022..38.131</u>

## Will democracy survive social media?

#### Roxanne van der Puil

**Goal:** This project will investigate the complex picture of the influence of social media upon democratic politics, and whether the claim that democratic practices is linked to truth telling, rationality, consensus and reason is still tenable due to social media. This is done by empirically and conceptually investigating the rise of post-truth and critically examining the role of feelings in online discourse. The objective of this project is to develop a normative and empirical model of democracy theory that takes into account the potential of social media to facilitate more participative democracy while acknowledge its disruptive value of challenging traditional democratic norms and practices.

**Progress:** A paper was published a paper on designing social media democratically in the International Journal of Technoethics titled "Which democratic way to go? Using Democracy Theories in Social Media Design" Currently, work is in progress in analyzing the data collected with a survey to explore post-truth in the Netherlands.

van der Puil, Roxanne, Andreas Spahn, and Lambèr Royakkers. "Which Democratic Way to Go?: Using Democracy Theories in Social Media Design," International Journal of Technoethics (IJT) 14, no.1: 1-20. <u>http://doi.org/10.4018/IJT.331800</u>

## **Foundations & Synthesis**

## Philosophical analysis of socially disruptive technologies and their role in transforming society

### Dr. Jeroen Hopster

**Goal:** This project analysed the general nature of socially disruptive technologies, the notions of social disruption and social transformation, and types (disruptive/transformative) impacts of technology on society, including impacts on institutions, social structures, cultural and epistemic practices, concepts, values and beliefs. Special attention has been given to theorizing the role of technology in 'moral disruptions' and 'moral revolutions', among others in relation to conceptual change.

**Progress:** The project has yielded a preliminary investigation of whether "socially disruptive technologies" constitute a sufficiently unified class to warrant a distinct ethical approach (an "ethics of socially disruptive technologies"), and how such an approach can be conceptualized.

Hopster JKG. (2021). What are Socially Disruptive Technologies? Technology in Society 67, 101750: 1–8. <u>https://doi.org/10.1016/j.techsoc.2021.101750</u>

Hopster JKG, Arora C., Blunden C, Eriksen C, Frank L, Hermann J, Klenk M, O'Neill E, Steinert S. (2022). Pistols, Pills, Pork and Ploughs: The Structure of Technomoral Revolutions. Inquiry: An Interdisciplinary Journal of Philosophy: 1–34. <u>http://dx.doi.org/10.1080/002017</u> <u>4X.2022.2090434.</u>

Hopster JKG, Löhr G. (2023). Conceptual Engineering and Philosophy of Technology: Amelioration or Adaptation? Philosophy & Technology 36(70): 1-17. <u>https://doi.org/10.1007/s13347-023-</u> <u>00670-3</u>

# Conceptual engineering in the philosophy of technology

#### Samuela Marchiori

**Goal:** This project will develop criteria for guiding conceptual engineering projects in the philosophy of technology. It will contribute to three central goals of ESDiT, and of the F&S line in particular. First, it will contribute to the Conceptual Change & Disruption line, and provide essential input for others in the programme who want to argue that a particular concept ought to be changed in response to a particular SDT. Second, the project will connect theoretical and practical philosophy with debates in the ethics of technology, with a particular focus on the development of new methods in the ethics of technology to address challenges raised by SDTs. Finally, the project will provide a systematic approach to evaluating the conceptual impact of SDTs.

**Progress:** The project is divided among two orthogonal lines of research: methods for conceptual engineering and the ethics of conceptual engineering. Research belonging the first research line is being carried out and will be completed by early 2025. It

is expected to result in four papers: (1) Conceptual disruption (with K. Scharp), investigating the phenomenon of conceptual disruption and its relation to conceptual engineering; (2) Functionalism, investigating the benefits and shortcomings of employing a functional account of concepts for the conceptual engineering of moral concepts; (3) Comparative conceptual engineering, proposing a comparative approach to conceptual engineering as a promising methodology to (re-)engineer moral concepts in response to socially disruptive technologies, and (4) Concepts as artefacts, discussing the conceptual engineering implications of concepts being considered as artefacts.

Research belonging to the second research line will be carried out in 2025-2026.

Thus far, the project led to six presentations at international conferences (PIRC 2022, fPET 2023, CEPE 2023, SPT 2023, SAP 2023), three guest lectures and seminars, one book chapter (Hopster et al, 2023), and one manuscript (under consideration at Ethics and Information Technology).

Hopster, J., Brey, P., Klenk, M. B. O. T., Löhr, G., Marchiori, S., Lundgren, B., & Scharp, K. (2023). Conceptual Disruption and the Ethics of Technology. In L. van de Poel, L. Frank, J. Hermann, J. Hopster, D. Lenzi, S. Nyholm, B. Taebi, & E. Ziliotti (Eds.), Ethics of Socially Disruptive Technologies: An Introduction (pp. 141-162). Open Book Publishers. <u>https://doi.org/10.11647/</u> <u>OBP.0366.06</u>

# Methods of practical philosophy regarding socially disruptive technologies

### Dr. Björn Lundgren

**Goal:** The aim of this postdoc project is to investigate the following research question:

"Which methods in practical philosophy are best suited (and on what grounds) for (1) understanding the normative concerns that are raised by emerging technologies (particularly, their socially and conceptually disruptive character) and for (2) justifying revised philosophical approaches to those concerns?"

**Progress:** The project has developed methodologically oriented research in at least five distinction areas, and contributed to an improved understanding of: (1) some of the major challenges of ethical guidelines—especially for SDTs—as well as potential solutions to those challenges; (2) the alternate accounts of risk and the reasons against non-standard analyses of risk; (3) an insight into the methods in the empirical-normative debate on ethics of crashing and safety of autonomous vehicles; (4) methods in conceptual analysis/design, in particular as it concerns normative-conceptual challenges; and (5) fundamental methodological choices for normative ethics. Most of the results are found in papers currently under review or soon to be submitted.

Björn Lundgren, "Two notes on Axiological Futurism: The importance of disagreement and methodological implications for value theory", Futures 147: 103-123 (2023). <u>https://doi.org/10.1016/j.futures.2023.103120.</u>

Hopster, J., Brey, P., Klenk, M. B. O. T., Löhr, G., Marchiori, S., Lundgren, B., & Scharp, K. (2023). Conceptual Disruption and the Ethics of Technology. In L. van de Poel, L. Frank, J. Hermann, J. Hopster, D. Lenzi, S. Nyholm, B. Taebi, & E. Ziliotti (Eds.), Ethics of Socially Disruptive Technologies: An Introduction (pp. 141-162). Open Book Publishers. <u>https://doi.org/10.11647/</u> <u>OBP.0366.06</u> Lundgren, Björn, 'Ethical Requirements for Digital Systems for Contact Tracing in Pandemics: A Solution to the Contextual Limits of Ethical Guidelines', in Kevin Macnish, and Adam Henschke (eds), The Ethics of Surveillance in Times of Emergency (Oxford, 2023; online edn, Oxford Academic, 23 Nov. 2023), https://doi.org/10.1093/oso/9780192864918.003.0011

Lundgren, B. Is Lack of Literature Engagement a Reason for Rejecting a Paper in Philosophy?. Res Publica (2023). <u>https://doi.org/10.1007/s11158-023-09632-0</u>

Lundgren, B., Stefánsson, H.O. Can the Normic de minimis Expected Utility Theory save the de minimis Principle?. Erkenn (2023). <u>https://doi.org/10.1007/s10670-023-00751-x</u>

## Qualitative investigation of STEM perspectives

#### Dr. Michael Dale

**Goal:** The aim of this project is to perform a multi-method empirical investigation and philosophical analysis of the ethical practices and mechanisms (e.g., safeguards, guidelines) employed by current scientific thought leaders in STEM (Science, Technology, Engineering and Mathematics) fields, CEOs, entrepreneurs and technical experts in relevant high-tech/biotech industries in order to create ethical awareness, assess ethical drivers and barriers, and raise ethical concerns.

## How theories of technology and its relation to society can inform and transform ethics

#### Dr. Kevin Scharp

**Goal:** The aim of this project is to investigate conceptual disruptions, especially those caused by socially disruptive technologies (SDTs), require responses in the form of conceptual engineering. What is conceptual engineering, what are appropriate methods, and how can conceptual disruptions caused by SDTs be responded to?

## Socially Disruptive Technologies and Conceptual Change

#### Dr. Guido Löhr

**Goal:** The aim of this project is to understand the nature of conceptual disruption and conceptual change in the context of socially disruptive technologies. Concepts may change over time in several relevant respects. These include the meaning or intension, the scope or extension, and the preciseness or fuzziness. Conceptual change may be driven by internal developments in a scientific discipline, but also by external developments in society, such as technological developments or by normative developments. In this project we aim to answer a number of questions: What is the difference between conceptual disruptions and conceptual changes. How does a conceptual change or disruption exactly work and how can it be driven or caused by technological change? How can and should we adapt to conceptual disruptions? Finally, what is the relation between conceptual change and moral change and what is the role of technology to promote moral progress?

# Management Reports

## **Reports from the Management**

### Prof. Dr. Philip Brey

**Socially disruptive technologies.** Related research questions are: 1) What are socially disruptive technologies and how should they be assessed? 2) How do SDTs disrupt concepts and how can concepts be engineered to be improved? 3) What are the disruptive effects of XR and metaverse technologies? 4) How can ethical guidance for AI and other disruptive technologies be operationalized?

**Progress:** I have co-authored an internal report on socially disruptive technologies and their assessment. Several presentations on this topic and co-authored a chapter in the ESDiT book on how SDTs disrupt concepts and how can concepts be engineered to be improved. I have written a book and a book chapter on he disruptive effects of XR and metaverse technologies. I have several publications on ethical guidance for AI, the latest in AI & Ethics called "Ethics by Design for Artificial Intelligence".

Brey, P. and Dainow, B. (2023). Ethics by Design for Artificial Intelligence. AI and Ethics. <u>https://doi.org/10.1007/s43681-023-00330-4</u>

Brey, P. (2022). Understanding Engineering Design and Its Social, Political, and Moral Dimensions. The Oxford Handbook of Philosophy Technology. Ed. S. Vallor, Oxford University Press. <u>https://doi.org/10.1093/oxfordhb/9780190851187.001.0001</u>

These are two publications that relate to the fourth topic and contribute to the STEM track by discussing how research at the intersection of ethics and engineering design can proceed.

#### Dr. Andreas Spahn

**Will democracy survive social media?** inclduing the research questions 1) How can we better align social media with human values and how can we re-interpret democratic values (e.g. deliberation, the role of public sphere)? 2) How do socially disruptive technologies relate to human values, particularly in the field of behaviour change and environmental values?

**Progress:** I am/have been involved in two funded research projects (on social media and on behaviour change technologies) and involved in the co-supervision of Roxanne vd Puil (current) and Matthew Dennis (while he was a post-doc). I am also active in the intercultural philosophy track and mainly interested in the role of technology on attention. This has a link to social media (that is grabbing our attention), but can also be applied to other technologies. We have jointly investigated Buddhist perspectives on the notion of attention and the its potential for a criticism of traditional interpretations of the attention economy.

Next to this I have worked in the past on behaviour change technologies for environmental goals. In the context of this, I have worked on co-authored publications on the conceptualisation of moral values in the energy transition, particularly on energy justice.

Bombaerts, G., Spahn, A., & Laes, E. (2023). Structuring values and normative frameworks using Schwartz's value theory to map the three tenets of energy justice. Energy Research & Social Science, 104, 103244.

https://doi.org/10.1016/j.erss.2023.103244

van der Puil, R., Spahn, A., & Royakkers, L. (2023). Which Democratic Way to Go?: Using Democracy Theories in Social Media Design. International Journal of Technoethics (IJT), 14(1), 1-20. <u>https://dx.doi.org/10.4018/IJT.331800</u>

A reflection on the conceptualisations of values in the debate on energy justice. This relates to the research questions in the nature line about how to understand the relevant moral values int the context of climate change. We argue that the western starting point from justice is too abstract and should be complemented with a broader conceptualization of values.

An attempt of trying to develop design-guidelines for social media from the perspective of two influential theories within the tradition of democracy.

#### Prof. Dr. Ibo van der Poel

The potential of living labs for the ethics of technology: developing new empirical and philosophical methods. Related research questions are: 1) How are conceptual change and value change related? (This builds on insights from my ERC project on value change), 2) How should we conceptually engineer the concept of 'control' articularly given the role the concept of 'control' has in discussions about control over technology (eg AI), control over nature (environmental philosophy, geo-engineering) and the relation between control and responsibility, 3) How can methods like corpus analysis and topic modelling be used to investigate conceptual change over time? 4) What role can and should 'value experiences' play in the responsible development of new technology and particularly in design for values? How should we philosophically understand values experiences? What new empirical methods can be developed to collect and interpret relevant value experiences?

**Progress:** Outcomes so far 1) There is overlap between conceptual change and value change but not all cases of value change are cases of conceptual change and vice versa. In both cases, an important mechanism that has not received sufficient attention is that technologies may not directly disrupt concepts and values, but do so by creating new types of moral problems that require new values and concepts (or changes in existing ones) to address them. In both types of change uncertainty seems to play an important role. It might be interesting to explore a pragmatist approach to both concepts and values, in which they are conceived as fulfilling a certain function, and in which change occurs once values or concepts do no longer properly their existing function, or new functions are required.

Outcomes so far 2) An book chapter with Martin Sand that argues that we should reconceptualize the relation between responsibility and control. A book chapter on Al and control. A working paper on how to conceptualize control particularly in relation to control over nature.

I organized an ESDiT/ERC workshop together with Guido Lohr on this question. I did some preliminary work on using ValueMonitor (an outcome of my ERC project) to study how the concept of control has evolved in the philosophical literature. Still very preliminary but might turn out to be interesting.

I have a working paper discussing some relevant issues. It will be an important question for the project with RSL and new postdoc. I aim to organize a small internal ESDiT workshop on value experiences.

van de Poel, Ibo; Frank, Lily; Hermann, Julia; Hopster, Jeroen; Lenzi, Dominic; Nyholm, Sven; Taebi, Behnam; Ziliotti, Elena (Ed.) Ethics of Socially Disruptive Technologies: An Introduction Open Book Publishers, 2023 van de Poel, Ibo Socially Disruptive Technologies, Contextual Integrity, and Conservatism About Moral Change In: Philosophy and Technology, vol. 35, no. 82, 2022 <u>https://doi.org/10.1007/s13347-023-00671-2</u>

### Prof. Dr. Joel Anderson

**Reconfigurations of the Human.** - 1) What are the implications of 4E approaches to the human (as embodied, extended, embedded, and enacted) for our understanding of self-control and motivation – and what further implications does this have for value-sensitive design? Philosophical Anthropology and Ethics - 2) How can the ideals implicit in widely shared understanding of the human serve as a pragmatic ideal for which to strive? Constructions of Human Diversity - 3) What are the implications for AI for neuro-diversity – and vice versa? 4)How are SDTs affecting our self-understanding as human beings? 5) How can achievements that come from co-creation with technology still be understood as expressions of one's own agency?

Empowering democratic, responsible innovation and regulation regarding SDTs - 1) How does the contested attribution of technological competence affect debates about expertise, especially with AI- facilitated decision-aids? How can be dynamics be transformed in a way that facilitates improved citizen engagement? Engagement with Practical Philosophy 2) How can the integration of empirical sciences into moral psychology in mainstream philosophical work, serve as a model for what we can do?

"Questions of Social Justice Regarding Scaffolding for Volitional Autonomy" presented at conference on "Infrastructures of Autonomy" - Nov. 25, 2022 (Berlin)

"Assistive Technologies for Self-Control in the Context of Structural Attributional Injustice" presented in Boston, Toronto, and Santa Cruz.

### Prof. Dr. Marcel Verweij

**Technology for public health and Solidarity as ground for assessing health technologies.** The related research questions are: 1) Technology for public health: How can public health authorities or the state implement technologies to improve public health (notably as infectious disease control) in a responsible way? 2) What are the ethical grounds for deciding about the inclusion or exclusion of health care technologies in the basic health insurance package, and what is the role of the value of solidarity in this?

**Progress:** In the past years Roland Pierik and I have developed an ethical justification for proportionate mandatory vaccination policies, both in childhood vaccination and in pandemic policies. We have explained how the harm principle can offer such a justification, and we have developed a framework for proportionate state pressure or coercion. The results have played a significant role in Dutch societal debates about pandemic vaccination and childhood vaccination.

As part of this study we also developed a framework for trustworthy immunization policies, which has also played a role in the debate about government activities to influence social media algorithms with the aim to downplay misinformation.

As part of my work for the Adviescommissie Pakket of Zorginstituut Nederland, I have done research on exploring the idea whether the value concept of solidarity can be understood in such a way that it gives reason to prioritise health care technologies that are environmentally sustainable. The result is an explanation of how solidarity functions as an ideal concept that offers ground for taking seriously (in national health policies) the climate impact of our own health care.

Liever een echte vaccinatieplicht dan 2G, dat is duidelijker en eerlijker De Volkskrant, 2 December, 2021. Met Roland Pierik.

De kwestie: Coronabewijs bevrijding of uitsluiting? Telegraaf, 11 September 2021.

Vaccinatiepas voor café geen discriminatie. NRC, 17 August, 2021. Met Roland Pierik.

#### Prof. Dr. Sabine Roeser

**Rethinking the concepts of risk, emotion, intuitions and art in the light of SDTs.** In my research I argue that the concept of risk has to be redefined from a quantitative notion to explicitly include ethical aspects such as autonomy, fairness, solidarity, responsibility, and care. I furthermore argue that we need to reconceptualize emotions (including empathy, compassion and care), namely not as states that are contrary to rationality as they are often seen, but as a form of moral cognition and perception that can alert us to these ethical aspects of risk. Furthermore, I argue that works of art that engage with technologies can contribute to emotional moral deliberation on risky technologies; this requires reconceptualizing art from 'l'art pur l'art' as 'art as a scaffolding for emotional deliberation' by experientially engaging our imaginative capacities.

Steffen Steinert, Lavinia Marin, Sabine Roeser (2022), 'Feeling and thinking on social media: Emotions, affective scaffolding and critical thinking' <u>https://doi.org/ 10.1080/0020174X.2022.2126148</u>

Sabine Roeser and Steffen Steinert (2022), 'Emotions and Responsible Innovation of Risky Technologies', in Stearns Broadhead and Adriana Placani, Risk and Responsibility in Context, London: Routledge pp. 173-190 <u>10.4324/9781003276029-13</u>

#### Dr. Vincent Blok

**Philosophy of Technology in the Digital Age.** The related research questions are: 1) How do digital technologies impact the structure of the World and human living and acting in the World? 2) What is the nature of creation involved in technological innovation? 3) How to conceive the ontological impact of digital technologies on the World beyond anthropocentrism and determinism?

In my research, I am interested in the ontological impact of disruptive technologies on the structure of the World and the way humans live and act in the world. I am critical of the one-sided orientation of classical philosophers of technology towards the underlying ontological structure of the technical World (Heidegger), which overlooked the role of concrete disruptive innovations like digital twins, but also of the one-sided orientation of contemporary philosophers of technology (Ihde, Verbeek) who focus on concrete technologies like AI applications, ignoring the fact that digital technologies function in a World of data as the substrate for algorithmic computation. Instead, I try to integrate both perspectives in my research.

In my research, I develop a philosophy of technological that takes serious the empirical turn (focus on concrete cases of digital technolies like AI, Digital Twins, synbio etc) but also involves an ontological turn (Anthropocene World), a processual turn (process of creative destruction of World by technological innovations) and a material turn (the materiality of planet Earth as resource, stable climate etc as condition of possibility for the emergence of technologies in the World). I employ these insights in my research projects and work on a monograph and separately published articles on the ethics of technology, for instance on the moral considerability of hybrids in synbio.

"What is Innovation. Laying the ground for a philospohy of innovation" <u>https://www.pdcnet.org/8525763B0050E6F8/file/03B05EE1DCD-</u>84D5685258600004A8229/\$FILE/techne\_2021\_0025\_0001\_0073\_0097.pdf

"Hybrids and the Boundaries of Moral Considerability or Revisiting the Idea of Non-Instrumental Value" <u>https://link.springer.com/article/10.1007/s13347-019-00380-9</u>

### Prof. Dr. Wijnand IJsselsteyn

**Cognition and Affect in Human-Technology Interaction;** an active research program on the impact of media technology on human psychology, and the use of psychology to improve technology design. Related topics are: 1) Emerging technologies and the moral character of the human being. 2) Brain-computer interfaces & the disruption of the concept of personhood, 3)Behaviour change technologies for moral improvement and 4) Qualitative investigation of Interdisciplinary (STEM) & Transdisciplinary Perspectives.

**Progress:** In 2022, together with Koert van Mensvoort (Next.Nature), I organized the AI for ALL event at the Evoluon in Eindhoven - a collaboration in which ESDiT was also visibly present. Speakers here included Bruce Sterling and Marleen Stikker. See: <u>https://www.tue.nl/en/our-university/calendar-and-events/25-11-2022-ai-for-all-from-the-dark-side-to-the-light</u>

My personal highlight of last year was probably the award of the Distinguished NIAS Lorentz Fellowship 2024/2025 on the theme Psychology and Ethics Of Progressively Lifelike Embodiments in the Metaverse (PEOPLE in the Metaverse) (<u>https://nias.knaw.</u> <u>nl/news /wijnand-ijsselsteijn-selected-as-distinguished-nias-lorentz-fellow-2024-25/</u>)

## **Budget** status

## Personnel (in FTE and $K \in$ )

Realization of PhD and Postdoc positions is lower than budgeted for due to a later start than initially intended for some of these positions

Scientific staff	FTE	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
PhD students	14,3	15,8	393,0	767,3	959,6	999,9	549,0	895,2	895,2	739,3	393,1	6.607,5
Postdocs	7,9	60,6	184,0	337,0	697,4	631,1	166,0	412,8	612,0	612,0	327,5	4.040,5
Tenure trackers	3,4	15,5	56,5	56,5	91,0	91,0	401,3	401,3	401,3	401,3	401,3	2.316,7
Replacements (Prof.)	1,3	126,8	120,3	157,1	115,3	118,1	319,1	326,2	333,5	340,9	348,5	2.305,7
Total scientific staff	26,9	218,8	753,7	1317,9	1863,2	1840,1	1435,3	2035,5	2242,0	2093,5	1470,3	15.270.4

Non-Scientific staff	FTE	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Academic level	0,9	66,1	85,2	85,0	89,8	91,6	93,5	95,4	97,4	99,4	101,4	904,9
MBO level	0,8	48,7	49,8	50,9	47,4	48,4	49,5	50,5	51,6	52,7	53,9	503,5
Academic & MBO level (meerkosten)	-	27,4	27,4	27,4	27,4	27,4	27,4	27,4	27,4	27,4	27,4	274,4
Total non-scientific staff	1,8	114,8	135,0	136,2	164,6	167,5	170,4	173,4	176,4	179,5	182,7	1682,9
Total staff	28,7	333,6	888,7	1.454,1	2.027,9	2.007,6	1.605,7	2.208,9	2.418,4	2.273,0	1.653,0	16.953,3

## Investment costs (in $K \in$ ) n.a.

## Other costs (in $K \in$ )

Due to COVID pandemic restrictions the PhD abroad programme and travel / conference organisation costs are less than was budgeted the first years.

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Open seienes infrastructure	0.0	0.0	0.0	51	51	51	51	51	51	51	26.0
Open science infrastructure	0,0	0,0	0,0	5,1	5,1	5,1	5,1	5,1	5,1	5,1	30,0
Advisory board expenses	0,0	0,0	0,0	10,7	10,7	10,7	10,7	10,7	10,7	10,7	75,0
Travel/conference organization	4,5	18,9	67,1	135,4	135,4	135,4	135,4	135,4	135,4	135,4	1038,3
Dissemination, valorization	0,0	9,1	15,9	32,3	32,3	32,3	32,3	32,3	32,3	32,3	250,0
PhD Abroad program	0,0	0,0	7,5	38,9	38,9	38,9	38,9	38,9	38,9	38,9	280,0
Strengthening living labs	0,0	0,0	0,0	28,6	28,6	28,6	28,6	28,6	28,6	28,6	200,0
Total other staff	4,5	28,0	61,9	254,9	254,9	254,9	254,9	254,9	254,9	254,9	1.879,3

## Management team

Philip Brey Melanie Braamhaar

Seeta Autar

All research fellows involved in the programme's output are mentioned on the website:

https://www.esdit.nl/about-esdit/researchers/

All publications are available at:

https://www.esdit.nl/publications/

### 2022 available at:

https://www.esdit.nl/publications/ ?tgid=&type=&auth=&usr=&yr=2022#tppubs.

# esdit

Role

Project leader Programme manager Project manager