WTMC SERIES

ON TEACHING & LEARNING STS

TRUST AND TRUTH

Spring Workshop

2022 (1)

WTMC | Netherlands Graduate Research School of Science, Technology and Modern Culture

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Ravenstein

Keurvorst

Soeterbeeck

Ravenhuus

Thank you, Google maps

Directions

Address

Studiecentrum Soeterbeeck / Study and Conference Centre Soeterbeeck
Elleboogstraat 2
5352 LP Deursen-Dennenburg
Phone: +31-24-36 15 999

Internet: https://www.ru.nl/soeterbeeck/

By train

Take the local train ('stoptrein', NOT the Intercity or fast train) in Nijmegen or 's Hertogenbosch to Ravenstein, leaving every half hour. This takes 15 or 20 minutes, respectively. At the railway station in Ravenstein take the exit at the back of the station, and follow the small footpath ('Stationspad'); at the end of the path turn right and enter the Soeterbeeck premises through the entrance gate. This is a 10-minute walk. Dutch railway schedules can be found at www.ns.nl.

By road

Motorway A50 Arnhem - 's Hertogenbosch (= coming from Arnhem): take the exit Ravenstein (nr.17); at the roundabout turn left, next roundabout straight on, next roundabout turn left (de Rijt), and again left after 100 m (Elleboogstraat), enter the Soeterbeeck premises through the entrance gate.

Motorway A 50 's-Hertogenbosch - Arnhem (= coming from 's-Hertogenbosch). Take exit Ravenstein (nr.17); at T -junction, turn left, and again left at the traffic lights; first roundabout straight on, and again straight at second roundabout; next roundabout turn left at the crossing (De Rijt), and again left after 100 m (Elleboogstraat); enter the Soeterbeeck premises through the entrance gate.

Introduction to the workshop

Welcome to the workshop. It starts here. Before the actual workshop begins, read through this Programme to make sure you know what you are supposed to do in advance. You need to prepare for assignments, as well as read all the literature – best not to leave these until the last minute. Preparing for the workshop will take about one week of full-time work. There are not many gaps in the programme, so it is important that you do the reading before you arrive. Make notes of any questions you may have or anything you do not understand – that will remind you to raise them during the workshop. Read through the detailed programme as well so that you know in good time what you need to prepare, write and think about. Pay special attention to the activities, as these require extra preparation. Discussants have been assigned for the presentations that some of you will be giving. The names are listed in the Programme – do check to see if you need to be prepared for that. We have tried to include people as discussants who have not done that task recently, and who do not work in the same university as the presenter. Some of you may have to think hard about what you can say – it's good practice.

Each of you will get something different out of this workshop, depending on where you are in your own research and on what exactly you are studying. As a more informal part of the preparation, it is worthwhile to spend time thinking about what it is you want to learn and how you would be able to achieve that. Of course you should also be prepared to be surprised, to learn something unexpected and then afterwards reflect on how that relates to your own development as a scholar.

The WTMC Spring workshop takes on huge concepts, Trust and Truth. The workshop will be the opportunity to explore these concepts empirically, philosophically and institutionally. Each day of the workshop will consider a different angle, starting with trust and truth in the context of the Covid-19 pandemic, moving on to philosophical insights on the role of trust and truth in science and finally diving into how organisations and technologies shape trust in science.

On day 1, Marli Huijer and Steven Shapin will offer us their thoughts on the topic Trust and the COVID19 crisis. Both have taken part in the public debate around knowledge and the pandemic, but in very different ways. While Marli Huijer's contribution will be in a regular lecture and discussion, Steven Shapin will join us virtually. We have one hour with him to exchange thoughts about two of his most recent contributions to the topic.

On day 2, we shift the focus to the topic of Trust and Truth in Science with a special emphasize on truth making in the context of machine learning algorithms and modelling. We focus on these tools since they are the newest terrain on which very old issues are being played out. This will provide us with the opportunity to ask what is new about the emerging debates.

On day 3, we have three lectures scheduled: in the morning, Anne-Floor Scholvinck from the Rathenau Institute will speak about Public trust in science. Tamara Metze will then shift the focus to science-society interactions in the context of the transition towards a more sustainable world. The workshop will be wrapped up by Robert Goené from Waag on the potential relevance of epistemology for a better understanding of (public) trust in science.

As usual, we have tried to connect a particular theme to a wide range of angles and topics. We are confident that you will find many opportunities to link the workshop to your own research interests and that this workshop will serve you in your future teaching and research activities.

We hope you will enjoy preparing for this workshop and look forward to meeting you (again) in April 2022!

Anne and Andreas, also on behalf of the speakers.

Practical Notes

To do before the Workshop

Allow about two weeks for preparation of this workshop. The compulsory literature consists of roughly 250 pages. At 8 pages per hour, this takes about 32 hours. We expect you to spend about 8 more hours to prepare the exercises, and read part of the recommended literature as you wish. This amounts to 40 hours in all, which is the standard amount of preparation time for a workshop. In preparation, proceed as follows:

- Read the detailed programme and pay special attention to the activities so that you know in advance what you need to prepare and think about.
- Read all literature before you arrive. There is no time to read during the workshop. Make notes about what you don't understand, questions you would like to ask, things you want to discuss.
- Write a 2-page proposal (see 1.4 in programme below)
- Check the programme to see if you are a discussant for one of the PhD presentations. Look at the sections "PhD presentation guidelines' and "Feedback on presentations", which contains guidelines for presenters, discussants and all others!

What to bring with you

- Your material for this workshop: 5 printed copies of your proposal. it is NOT possible to print at Soeterbeeck).
- Debit card or credit card. In the evenings, after the formal programme, there are informal drinks, which you have to pay on Friday upon check out. This also goes in case you desire to have more than one drink during dinner. Cash is not accepted.
- **Earplugs:** we reside in an old convent, so corridors and doors may be noisy at night.
- Running addicts: bring your **running gear**.
- To get moving during breaks: bring footballs, badminton gear, Frisbees etc. Soeterbeeck provides a ping-pong-table, bats & balls, and (usually) some bicycles.
- Check the weather forecast and if needed, bring **rainproof clothes & footwear**.

Attendance/cancellation

- *The workshop is residential*: you are expected to check in at Soeterbeeck on Wednesday morning and check out on Friday afternoon. On most days, the programme continues into the evening.
- In order to receive credit for attending the workshop, *you are required to be present throughout the entire event*. Only calamities are taken as liable to depart from this rule. If this creates problems, then please contact the coordinators beforehand and as soon as possible.
- If, for any reason, you are unable to attend the workshop, please let Elize Schiweck (e.schiweck@utwente.nl) know **as soon as you can**. If notice of cancellation is received more than 10 days prior to the start of the workshop, you will receive a refund for all of the fees, minus €100 to cover the costs of administration and course materials. In the case of cancellations received less than 10 days before the start of the workshop, fees and any other costs that have been incurred by WTMC will not be refunded.

Programme

Wednesday, 6 April: Trust and the Covid19 Crisis		
10.30 – 11.00		Coffee & arrival
11.00 – 12.00	1.1	Introductions
12.00 – 13:30		Lunch and settling in
13.30 – 15.00	1.2	Core reading & preparation virtual Q&A
15.00 – 15.30		break
15.30 – 16:30	1.3.	Steven Shapin, virtual Q&A
16.30 – 16.45		break
16.45 – 18.00	1.4	Marli Huijer, *Covid-19 and what we might learn from Arendt*
18:00 – 19:30		dinner
19:30 – 21:00	1.5.	Proposal writing: evaluation (skills) *writing ahead of event needed!*
Thursday, 7 April: Trust and Truth in Science		
9.00 – 9.15		What kept you awake?
9.15 – 10.45	2.1	PhD Presentations (1)
10.45 – 11.15		Break
11.15 – 12.45	2.2	Proposal writing: discussion (skills)
12.45 – 14.00		Lunch
14.00 – 15.30	2.3	Koray Karaca, *Error and risk in machine learning*
15.30 – 16.00		Break
16.00 – 17.30	2.4	PhD Presentations (2)
17.30 – 19.00		Dinner
19.00 – 20.00	2.5.	Poster Presentations
Friday, 8 April: Institutions and Technologies of Trust		
9.00 – 9.15		What kept you awake?
9.15 – 10.45	3.1	Anne-Floor Scholvinck, *Public trust in science – mechanisms, conditions and engagement*
10.45 – 11.15		Break
11.15 – 12.45	3.2	Tamara Metze, *Science-society interactions in turbulent times: controversial sustainability transformations*
12.45 – 13.45		Lunch
13.45 – 15.15	3.3.	Robert Goené, *Truth, models and the potential relevance of epistemology for trust in science*
15:15 – 16.00	3.4	Farewells & group photo

Detailed overview

Wednesday 6 April: Trust and the Covid19 Crisis

1.1 Opening and introduction

As usual, we will start the workshop with a round of introductions, asking you to briefly explain who you are, where you work, and what your research is about. Also, we will briefly discuss what each of us hopes or expects to get out of this workshop. So, please come prepared to share one concrete element or way in which truth and/or trust comes up in your work and what this on-site workshop will add to your PhD project.

1.2 and 1.3 Core reading and preparation of the Q&A with Steven Shapin

> Steven Shapin, *A social history of truth. Civility and Science in seventeenth-century England* (Chicago 1995), intro, chapter I and epilogue.
>
> Steven Shapin, 'Is there a crisis of truth', Los Angles Review of Books (LARB), https://lareviewofbooks.org/article/is-there-a-crisis-of-truth/
>
> Steven Shapin, 'Why it's so hard to 'follow the science'', The Atlantic, https://newsletters.theatlantic.com/deep-shtetl/62041a299277230021ae9f0c/follow-the-science-joe-rogan-steven-shapin/

Please read these texts by Steven Shapin. During the workshop, we will discuss the texts a] **in groups of 4** and b] **in a plenary setting**. Make notes of any questions you want to raise and of relations you see between the texts and the issues raised in the other readings. At the end of this session each group **should have 3-4 discussion points and questions** which could be raised during the virtual Q&A with Steven Shapin later in the day.

We encourage you enormously to **start discussing and questioning** these texts **in advance of the workshop with your group**, through email or otherwise. Email addresses of all participants can be found on one of the final pages of this programme.

The group composition will be as follows:

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Florian	Chiara	Georgiana	Hanna	Lea L.	Lea B.	Lotje	Mariia
Efe	Yingying	Tessa	Syb	Sarah Rose	Olga	Nina	Niko
Wytske	Hugo	Eliana	Joost	Jenske	Jascha	Marta	Nada
Mike		Stefan	Anastasia	Annemarie	Mike	Candida	Aamina
		Michiel	Nienke				Sake

1.3 Marli Huijer, Covid-19 and what we might learn from reading Hannah Arendt's essay 'Truth and Politics'

In this session, we will explore truth and politics in the context of the Covid-19 pandemic. Using the work of Arendt and Hazelton, we will question the dichotomy of truth and politics and consider how the pandemic has formed a specific context for different configurations of relations between truth, facts and politics. We will also discuss what is at stake when certain facts are

constantly-- or never-- questioned, and why so little room was available to ask certain questions in the past two years.

Readings:

- Alice Hazelton (2021). Once upon Covid-19. A tale of misleading information going viral. In: Serena Giusti and Elisa Piras (Eds.) Democracy and Fake News. Information Manipulation and Post-Truth. Routledge, pp. 92-103.
- Shortened version of: Hannah Arendt, Truth and Politics. In: Hannah Arendt (1977) *Between Past and Future.* Penguin Books, pp. 223-259.

1.4 Evaluation: Proposal writing (skills training)

Preparation:

A substantial chunk of research life (and of many project-based professions) consists of writing applications for the next project. Nowadays, research time and resources are allocated largely on a competitive basis and the research proposal is the first and crucial step in that game. Some of you may have to write a developed proposal in the context of your PhD project, in order to proceed to the next level or to ensure your next project can go ahead. Writing good proposals is therefore an important academic and professional survival skill and we will help you to develop it during this activity.

We will pay specific attention to two aspects of proposal writing that WTMC PhD students often seem to struggle with: methods, and the connection between research question and theory. Some particularly adventurous minds have claimed that the attention to method is an old-fashioned obsession, a remnant of a positivist past. However, even such researchers will sooner or later have to explain how they plan to translate lofty ideas into concrete research actions. This may not necessarily imply the use of statistics software, a highly formalised research protocol, or a canonised focus group recipe. Nevertheless, you need to make clear to evaluators where you plan to find your information, what the nature of this information will be, and how you plan to process this information – and this should be more than 'analyse some documents' or 'interview some people' or 'conduct a case study'.

Between the concreteness of method and the abstract world of theory, lies the bridge of the research question. The research question should connect to matters that are of more general concern or what we already know, stored in theory. Here too, theory does not have to take the form of the general statements that can be translated into testable hypotheses of the positivists. Theory will be something completely different for an historian or an economist, but they both use theory to organise prior knowledge and to identify important gaps in it. The research question connects to theory in order to ensure it is relevant; it connects to method in order to make sure it is answerable. If your proposal is more directed towards a project in a professional setting, you might focus on an 'approach' rather than on a method—the challenge is similar in making concrete the link between what you want to accomplish and how you will tackle the activities in the project concretely.

So here is what we want you to do: write a short research or project proposal, prior to the workshop (2 page MAX, including the title of the proposal and your name). **Please bring along 5 printed copies** (it is NOT possible to print at Soeterbeeck). Your application should be for a 2-year project or post-doc size project, or if you are at the very beginning of your PhD, then focus on writing out that as a proposal. This can be your own research (if you find that useful to do at

this point in your project), some project you might want to undertake in the future, or something you feel strongly about.

Imagine you are writing for an interdisciplinary panel of NWO, the Dutch research council. Hence write in a style that is understandable to a general academic audience. Since research applications are typically addressed to bureaucratic organisations (and because we want you to really focus on methods), we have added an extra hurdle: you can write a maximum of 200 words about theory, including an explicit research question, and you must write 300 words on the method or approach you plan to use (however you want to interpret 'method').

During the workshop, we will set up a review process in groups of four participants. Each group will review its members' proposals and prepare to report back on what they thought were particularly good choices and what could be improved. The main criteria will be whether the research question bridges theory and the proposed research, and whether the methods section is an adequate plan for doing research to answer the question, or whether the approach promises to tackle the issue identified, in the case of non-research proposals.

These two texts may help you with this activity.

Literature:
- Quinn Patton, M. (2002) *Qualitative Research & Evaluation Methods* (3rd ed.), Sage: Thousand Oaks, Ca. (pp. 249-255).
- Corbin, J. M. & Strauss, A. (2008) *Basics of Qualitative Research* (3rd ed.), Sage: Thousand Oaks, Ca. (Ch2., pp.19-43).

Thursday 7 April: Trust and Truth in Science

2.1 PhD Presentations

1. Presenter: Maria Denisova, Discussant: Niko Wojtynia
2. Presenter: Efe Cengiz, Discussant: Michael Bron
3. Presenter: Tessa Roedema

Important: See the guidelines for presenters and discussants at the end of this reader.

2.2 Discussion: Reflection on proposal-writing and trust and truth

During this session, we will share conclusions from Wednesday's review sessions. Each group will report back on what they thought were particularly good choices and what could be improved in the proposals. This will help our collective learning of this important skill. In addition, we will re-examine the proposals in light of the two elements of trust and truth.

2.3 Koray Karaca, Error and risk in machine learning

Machine learning (ML) is a computational method of data modelling that is increasingly used to cope with the growing complexity of big data analysis. Models based on ML have recently gained prominence in various societal domains owing to their distinctive ability to draw predictions from big data. Yet, there is also a societal risk associated with grounding decision-making processes in social domains—such as healthcare and criminal justice—on the predictions of ML models, in the sense that the errors in these predictions would translate into wrong decisions that could in turn

have negative consequences for both society and individuals. In this lecture, I will discuss the risk posed by ML models and the ways in which it is handled in the context of ML models used for binary classification tasks in societal domains, such as the classification of patients into two categories according to the presence or absence of a certain disease like cancer and heart disease, and the classification of credit applicants as low-risk or high-risk customers.

Readings:

- W.J. von Eschenbach, Transparency and the Black Box Problem: Why We Do Not Trust AI. *Philos. Technol.* **34,** 1607–1622 (2021). https://doi.org/10.1007/s13347-021-00477-0
- C. Zednik, Solving the Black Box Problem: A Normative Framework for Explainable Artificial Intelligence. *Philos. Technol.* **34,** 265–288 (2021). https://doi.org/10.1007/s13347-019-00382-7

2.4 PhD Presentations

1. Presenter: Sake Kruk, Discussant: Syb Kuijper
2. Presenter: Nina Schwarzbach
3. Presenter: Jascha Bareis, Discussant: Eliana Bergamin

Important: See the guidelines for presenters and discussants at the end of this reader.

2.5 Poster presentations

Participants who are working on the topic of the workshop are invited to bring a poster for this session. We will hold the session in small groups, to enhance opportunities for discussion.

Friday 8 April Institutions and Technologies of Trust

3.1 Anne-Floor Scholvinck, Public trust in science – mechanisms, conditions and engagement

In knowledge-intensive societies, in which governments use scientific knowledge as the basis for policy and in which public trust partly determines the social impact of research, it is important to monitor and understand mechanisms affecting citizens' trust in science. Research has shown that public trust in science is affected by, among other factors, the context in which scientific research takes place. For example, trust diminishes when research is conducted on behalf of the government. However, science is expected to contribute to solving societal issues, for which a certain level of proximity between governmental actors and scientists is required. This lecture deals with the conditions that must be met to ensure citizens' continued confidence in science, even when the government commissions that research. Special, yet critical, attention will be given to the role that meaningful public engagement with science can play in establishing and restoring public trust in science.

Readings (obligatory and optional):

- ALLEA (2018). Loss of Trust? Loss of Trustworthiness? Truth and Expertise Today
- Rathenau Instituut (2021).*Trust in science in the Netherlands (2021 survey),* **pages 2-4**, other parts of the report are **optional.**
- Stilgoe, J., S.J. Lock, J. Wilsdon (2014). *Why should we promote public engagement with science?* Public Understanding of Science 2014, Vol. 23(1): 4–15.
- **Optional:** https://www.youtube.com/watch?v=GscgpZI8CrU

- **Optional for Dutch-speaking PhDs:** Rathenau Instituut (2021) *Vertrouwde wetenschap - Een kwalitatieve studie naar het publieke vertrouwen in wetenschap en opdrachtonderzoek.* [Link](#).

3.2 Tamara Metze, Science-society interactions in turbulent times: controversial sustainability transformations

By focusing on sustainability transformations, this talk will reflect upon on how on science-society interactions and how to analyse them. Next to the discussion of concrete case studies, this will also entail reflections on controversy analyses facilitated by new digital methods.

Readings

- Metze, T. (2017) Fracking the Debate: Frame Shifts and Boundary Work in Dutch Decision Making on Shale Gas, *Journal of Environmental Policy & Planning*, 19:1, 35-52, DOI: 10.1080/1523908X.2014.941462
- Rabello, Elaine Teixeira; Gommeh, Efrat; Benedetti, Andrea; Valerio-Ureña, Gabriel; Metze, Tamara (2021) Mapping online visuals of shale gas controversy: a digital methods approach. *Information Communication and Society* (2021). - ISSN 1369-118X
- Turnhout, E., T. Metze, C. Wyborn, N. Klenk, E. Louder, (2020) The politics of co-production: participation, power, and transformation, *Current Opinion in Environmental Sustainability*, Volume 42, Pages 15-21, ISSN 1877-3435, https://doi.org/10.1016/j.cosust.2019.11.009.

3.3 Robert Goené, Truth, models and the potential relevance of epistemology for trust in science

With the Covid pandemic, the notion of a scientific model became part of the daily public debate. The otherwise highly specialised academic discussion suddenly was a prime time topic. Distrust in scientific findings and policy decisions based on them seems to be growing, with a strong reaction that stresses the trust in the facts of science.

I would like to use this occasion to explore some epistemological questions concerning scientific models and the notions of facts and truth. I will argue that the latter notions are mainly philosophical assets and part of the popular conception of science. However, the notions of facts and truth do not play an important role in science itself. They might even have a negative effect on the trust in scientific models and policy decisions based on them.

The talk will be critical of the 'analytic' epistemological tradition, gives some hints of what is missing from a very rich epistemological tradition at least starting with Aristotle. I will also present some epistemological questions that deep learning models present us, as an illustration of the contemporary scientific relevance of epistemological questions and the notion or trust.

Readings:
- Charles Taylor, *Philosophical arguments* (Cambridge, Mss.: Harvard University Press, 1995), p. 1-19.

3.4. Farewell & group photo

About the speakers

Steve Shapin is the Franklin L. Ford Research Professor of the History of Science at Harvard University. From 1972 to 1989, he was Lecturer, then Reader, at the Science Studies Unit, Edinburgh University, and, from 1989 to 2003, Professor of Sociology at the University of California, San Diego, before taking up an appointment at the Department of the History of Science at Harvard. He has won many awards and is considered a pioneer in the spciology of science. His books on 17th-century science include the "classic book" *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (1985, with Simon Schaffer); his "path-breaking book" *A Social History of Truth* (1994), *The Scientific Revolution* (1996, now translated into 18 languages), and, on modern entrepreneurial science, *The Scientific Life* (2008). A collection of his essays was published as *Never Pure* (2010). His current research interests include the history of dietetics and the history and sociology of taste and subjective judgment, especially in relation to food and wine.(with thanks to Wikipedia).

Marli Huijer (1955) is emeritus professor of public philosophy at Erasmus University Rotterdam. From 2015 to 2017 she was Thinker Laureate of the Netherlands. She studied medicine and philosophy. Both Michel Foucault and Hannah Arendt are key figures in her work. Her books include *Beminnen* (2018). *Discipline* (in Dutch, 2013; in German 2016). *Ritme* (2011; in German 2017). In June 2022 her essay *De toekomst van het sterven* (The future of dying) will appear.

Koray Karaca is an assistant professor in the Philosophy Section at the University of Twente. He holds a Ph.D. in theoretical physics from the Middle East Technical University, Ankara, Turkey, and a Ph.D. in history and philosophy of science from Indiana University, Bloomington, USA. Before coming to the University of Twente in September 2015, he worked as a postdoctoral researcher between in the interdisciplinary research project *The Epistemology of the Large Hadron Collider*, funded by the German Science Foundation and based at the University of Wuppertal, Germany. Earlier, he taught in the Department of Philosophy at the University of South Florida. His current research interests include the epistemology of data selection and analysis, computer simulation, and machine learning.

Dr. Anne-Floor Scholvinck is employed at the Rathenau Instituut (the Netherlands) as a senior researcher. She is interested in the interaction between science and society, regarding in particular public trust in science, and public engagement with science. She has (co-)authored several studies on these topics with the Rathenau Instituut, and presented her work for a varied and international audience. Before she joined the institute, she conducted her PhD research on the meaningful engagement of patients with health research. In 2020-2021, Anne-Floor was seconded to the UNESCO headquarters in Paris. As an Open Science expert, she contributed to drafting the global UNESCO Recommendation on Open Science, which was adopted by its member states in November 2021.

Tamara Metze (1972) is associate professor in the Department of Social Sciences, Public Administration and Policy group (since July 1st 2016). Trained in Political Science and Science and Technology Studies (both 'cum laude'), with a PhD from the University of Amsterdam in Public Administration. Metze is project leader of several interdisciplinary projects that aim to understand and experiment with boundary crossing collaborations in governance of sustainability transitions (e.g. energy, food and the circular economy). With special focus on boundary objects, (visual) framing, knowledge cocreation through research by design, scenario development, communities of practice, gamification and so on. She has extensive experience in the coordination of and lecturing in courses on interdisciplinary research, on framing, discourse theory, political

theory, innovative designs, and the energy transition. Metze is scientific director of the international collaboration TableDebates (Oxford, SLU and WUR), co-editor of the Journal of Environmental Policy and Planning, Chief editor of Beleid en Maatschappij (Policy and Society). She is member of the advisory board of the international conference on Interpretive Policy Analysis, of the editorial board of Critical Policy Studies, and principle Investigator of the Amsterdam Institute of advanced Metropolitan Solutions.

Robert Goené is the lead of the Future Internet Lab at Waag. He studied philosophy at the University of Amsterdam and has a background as a software developer and information designer, focussing on formal languages and statistical learning.

About the coordinators

Anne Beaulieu is professor of Knowledge Infrastructures and director of the Data Research Centre at the University of Groningen. At Campus Fryslân, she works on creating knowledge infrastructures for sustainability and is responsible for the major Responsible Planet in the programme Global Responsibility and Leadership. She has co-edited the books *Virtual Knowledge: Experimenting in the Humanities and Social Sciences* and *Smart Grids from a Global Perspective.* She is the co-founder of the Groningen Energy Summer School for PhDs and acted as one of its scientific directors for 6 years. She is a member of the Board of Studium Generale Groningen and of the NIAS-Lorentz Advisory Board. Her book *Data and Society: A Critical Introduction* with Sabina Leonelli will appear in November 2021.

Andreas Weber is an assistant professor in the research group of Science, Technology and Policy Studies (STePS) at the University of Twente. Most of his research and teaching examines the relationship between **Science, Technology and Culture (=STC)** from a long-term and global perspective. Andreas has a special interest in the histories of natural history and chemistry in insular Southeast Asia and Europe. This includes research into how computational technologies can be used to increase access to and learn from biodiversity heritage collections gathered in former colonial areas. Andreas holds a MA degree (2005) and a PhD, both from Leiden University (2012). He is editor of the Brill book series *Emergence of Natural History (ENH)* and associate editor of the journal *Itinerario: Journal of Global and Imperial History.* In 2015-2016, Andreas was a John C. Haas fellow of the Science History Institute in Philadelphia.

Participants

No.	First name	Surname	University/ Organisation	What is the topic of your research (5 lines)?
1	Annemarie	Horn	Vrije Universiteit Amsterdam	I conduct action research into inter- and transdisciplinary collaboration and knowledge integration. We design and continuously evaluate master level courses in which students from diverse backgrounds collaborate to work on complex societal issues. I study how they develop and can be supported to develop competencies for inter- and transdisciplinarity. This includes epistemic awareness, reflectivity, and the ability to engage in dialogical communication.
2	Yingying	Han	Radboud University	My project focuses on how validity is understood theoretically and used practically in research and education.
3	Michiel	Bron	Maastricht University	The involvement of oil companies in the development of nuclear energy in the age of scarcity, focussing on the 1970s
4	Marta	Sienkiewicz	Leiden University	New evaluative devices in the context of research assessment reforms and capitalist logics in academia
5	Nienke	van Pijkeren	Erasmus University Rotterdam	Healthcare is increasingly organized in regions. In policy, the regional scale is often considered as a solution to overcome scarcity (of resources, time and practicioners). In this PhD trajectory I aim to unpack the 'promise of the region' by studying how regions are conceptualized in theoretical and empirical sense. Through action research I aim to study how new forms of work distribution, such as standardization system to guide clinical reasoning on a regional scale, are applied and experienced by professional and patients. Currently I am interested in how such practices interact with notions of scarcity and distances/proximity.
6	Syb	Kuijper	Erasmus University	In my research I explore how differentiated nursing work is shaped in daily care practice. We study how task differentiation and performances measurements structure daily practices and the (valuation of) nursing profession. We are interested in the local enactments and socially binding effects of standards and measurements. Hence, we focus on articulated and enacted knowledge, norms and values and how this relates to conceptions of good nursing and other (tacit) components of the profession.
7	Lea	Lösch	VU	My PhD research centres around innovating the inclusion of citizens', patient's and health professionals' values and experience-based knowledge in vaccination guidelines by using automated text analysis methods.
8	Olga	Temina	Maastricht University	My research focuses on practices that lead to construction of access to medicines for patients with oncological and rare diagnosis in Russia. I pay special attention to role that patient organizations play in this process and their political epistemic projects. Theoretically my research is drawing from the STS literature and informality studies
9	Mariia	Denisova	Maastricht University	My research concerns the interrelationships between private health care organizations and evidence-based medicine in Russia. Drawing on the informality studies and STS, I explore how private spaces enable certain knowledge practices and innovations; and how these spaces are secured in the ambiguous environment of Russian health care. I mainly work within the concepts of epistemic work, informal practices, health care infrastructures, and construction of evidence.

10	Anastasia	Stoli	Maastricht University	DIY medicine production and informality
11	Stefan	Gaillard	Radboud University	I study two related controversies in nanobiology concerning the permeability of cell membranes and the blood/brain barrier to novel nanoparticles. Specifically, I look at the development of the controversy, with a particular focus on error claims and correction attempts, the response to these claims and corrections, and the continuation of research trajectories based on challenged assumptions. Methodologically, my project relies on qualitative interviews and documentary analysis, but informed by scientometric information gathered in associated projects.
12	Candida	Sanchez Burmester	Maastricht University	My research is situated in the ERC-funded synergy project 'Nanobubbles: how, when and why does science fail to correct itself?'. I analyse how claims and counter-claims have circulated at conferences in the field of nanobiology and how erroneous or exaggerated claims have spread in this community. My goal is to examine how conferences interface with other sites of scientific practice in this field, such as laboratories and journals.
13	Florian	Helfrich	University of Twente	Investigating the governance of socio-technical transformations, examining the implementation of blockchain-based platforms and infrastructures for energy markets and local communities. I will analyse how the technical construction and implementation of such infrastructures develop with relation to interactions and social relations between energy providers, governing institutions and local communities.
14	Lea	Beiermann	Maastricht University	Lea's PhD project explores the history of microscopy in the late nineteenth century. It looks at how microscopists built and used infrastructure to exchange craft knowledge of microscopy.
15	Nina	Schwarzbach	University of Groningen	Scientist-practitioner gap in clinical psychology and how methodological decisions contribute to the mismatch between research and practice.
16	Georgiana	Kotsou	Maastricht University	My research explores the role conference rituals and routines played in scientific community formation and knowledge production during the 20th century, focusing on chemistry conferences.
17	Tessa	Roedema	Vrije Universiteit Amsterdam	My PhD is part of the Horizon 2020 EU-project RETHINK and focuses on the fast-changing science communication ecosystem. Through an action-oriented research approach and communities of practice, we study the sense making practices of citizens on contested fields of science (now: covid-19) and set-up reflective practices to transform the science communication ecosystem together with professional science communicators across Europe.
18	Niko	Wojtynia	UU	Transition to regenerative farming in the Netherlands
19	Jascha	Bareis	Karlsruhe Institute of Technology	I am right now investigating institutional and regulatory perspectives on trust in Artificial Intelligence. I am working on a paper that tries to encompass the dominating ethical and technical discussion around trust in AI, looking deeper at the political factors and conditions that need to be upheld and guaranteed for the establishment and permanence of trust in AI.
20	Chiara	Carboni	Erasmus University Rotterdam	I explore ethnographically the implications that technological innovation trends in the healthcare sector (digitalization, automation, datafication) bear for (non-)professional work and epistemic practices.
21	Sake	Kruk	Wageningen University	My research examines how various organizations are using digital technologies to make food production more sustainable. I am particularly interested in the role digital technology can play in (re)organizing relations in global food systems to ensure that smallholders are included in sustainability improvements. One key dimension of the implications of the use of digital technologies for relations in food systems is trust. I am currently working on a paper that investigates what the use of digital technologies for sustainability assurance in aquaculture means for trust relations.

22	Joost	Kuijper	University of Twente	The struggle of regions to develop smart (re)specialization. Tensions and coping in the regional innovation system. From the perspectives of economic geography, regional ecosystem development and regional policy the research covers three cases in East Netherlands during 1995-2000 in advanced materials manufacturing, food & nutrition and energy-transition.
23	Wytske	Hepkema	Radboud University	Error, correction, and overpromising in science with a case study in nanoresearch.
24	Efe	Cengiz	University of Groningen	Investigating more-than-human knowledges surrounding attempts to standardise olive cultivation and olive oil production in the Aegean coast of Turkey
25	Sarah Rose	Bieszczad	Leiden University	My project analyzes, across various European institutional and national contexts, how researchers working in and on the deep sea navigate changing governance and evaluation systems and the subsequent constitutive effects these larger shifts have on their research practices.
26	Jenske	Bal	University of Liege	The topic of my research is the epistemic infrastructure of genomics in cattle livestock reproduction and selection. I look at how certain societal values such as biodiversity, health and the environment get translated into bovine bodies, and through which techniques and practices. For the first part of my research, I will do ethnographic research in Wageningen at the Animal Breeding and Genomics group and the Centre for Genetic Resources.
27	Aamina	Teladia	University of Groningen	Developing a regional energy transition model across the economic, social, political and technical dimensions using the Multi-level perspective and Socio-ecological systems framework
28	Nada	Akrouh	Erasmus University Rotterdam	My PhD research focuses on how citizen science can play a role in the development and use of AI and Big Data in healthcare. It will look at the role of citizens and patients in the application of AI and it will experiment with new forms of data analysis in which qualitative analyzes are combined with Big Data and AI using Citizen Science.
29	Eliana	Bergamin	Erasmus Rotterdam University	My research aims at investigating how the introduction of Artificial Intelligence is changing the role moral emotions play in the development of human moral character when applied in the field of healthcare, and how should this change be approached in order to understand the role of AI in societal development. This connects to the way AI is modifying and mediating the moral and emotional engagement of human beings in the world. My interest is particularly focused on emotions such as empathy, sympathy, and compassion, which are central in the domain of healthcare.
30	Hugo	Peeters	Erasmus University Rotterdam	In my research I investigate the epistemologies, normativities and practices through which the early onset human life is constituted as an object of preventative intervention.
31	Mike	Grijseels	VU Amsterdam	Inclusive technologies for people with disabilities in the workplace. We study how technologies are introduced to (and used in) different workplaces and what is needed for these technologies to support inclusive employment. In exploring the potential for inclusive technology we ourselves also become part of the learning and change processes in the workplace. We take inspiration from making & doing, actor-network theory and reflexive monitoring in action

PhD Presentation guidelines

For presenters

- Send the title & summary of your presentation to the discussant assigned to you at least 1 week before the workshop.
- A projector and PC are available. Copy your presentation onto the PC in advance. You may want to use your own laptop, which usually works fine, but mind that it poses an extra risk of technical issues. Also, if you have video material, make sure you have it downloaded locally. There is internet, but relying on YouTube etc. is risky.
- The duration of your presentation should be **15 minutes**. Then there is another 15 minutes for the discussant and plenary discussion. We keep time very strictly.
- Try to make a sophisticated choice on what you want to present. One typical pitfall is wanting to give an overview of your whole PhD project, which leads to an unfocused and overloaded presentation. Rather select an interesting aspect of your research and discuss it in-depth.

For discussants

- Make sure you receive the title & summary of the presentation at least 1 week before the workshop. Contact the presenter if needed.
- After the presentation: join the presenter in the front of the room
- Present your comments in **5 minutes** max.
- Mind that being a discussant is not about pointing out all the flaws in the presenter's argument, but about setting the stage for a constructive discussion. Offering critique is good, but also try to bring out what the potentials of the argument are for improvement, and to identify some questions for the speaker or the group as a whole.
- You may want to get in touch with the presenter to prepare some comments. Feedback should address the quality of the presentation itself (slides, clarity, focus) as well as its content.

All others

- Listen carefully and attentively to the presentation.
- Please fill in a **feedback form** for each presentation. They can be found at the end of the reader. They will be collected and given to the presenter. We will bring spare copies for people who don't print out the reader.
- Join the discussion after the discussant has given their feedback.
- Chances are that there is not enough time to discuss all questions from the audience. Please write them down on the feedback form. Even without discussion, your questions might be very valuable for the presenter!

Feedback on Presentations

This is to help you give feedback to your fellow participants, some of whom will be presenting their research during this event. Feedback forms will be available at Soeterbeeck. Use a separate sheet for each presentation, put your name and that of the presenter at the top of a piece of paper. That way, if something isn't clear, the presenter knows whom to ask. Write your comments during or immediately after the presentation and give them to the presenter during the next break.

Points to consider when preparing feedback (you don't need to cover everything):

- Attractiveness of title and opening
- Usefulness of summary provided in the reader
- Clarity and significance of problem definition, research questions and aims (refinement of, addition to, clarification or rejection of an existing thesis)
- Use of theory and/or historiography (concepts, interpretations, etc.)
- Embeddedness in fields relevant to WTMC
- Clarity of structure
- Presentation of the method(s) employed
- Validity and reliability of the method(s) employed
- Accessibility of the research data to the audience
- Use of (intriguing and relevant) details and examples
- Clarity of argument
- Relation to the nature and level of expertise of audience
- Use of PowerPoint and other audio-visual resources
- Contact with audience and audibility of speech
- Clarity and significance of conclusions
- Response to questions and comments
- Time management