



Gender & Science

Lecture Series Syllabus

Abstract	This lecture series offers an introduction to the relationship between gender and science, with a focus on the specific intersections with the sciences taught at ETH.
Objective	This lecture series is designed to acquaint students from all levels and departments with the various ways in which gender perspectives matter for specific scientific disciplines, as well as for science in general. Students will learn to recognize and analyse the specific ways in which scientific theories and methods are gendered, and how this connects to their own scientific disciplines.
Content	<p>There is agreement across academic disciplines today that gender influences and structures the production of knowledge and that scientific knowledge production in turn shapes gender notions. Even within “hard” sciences such as mathematics, physics, engineering, etc., gender is a significant factor in determining what counts as “objective” knowledge, who can know it, what kind of knowledge is produced, or how this knowledge is acquired and justified. Feminist research aims to reveal how dominant conceptions of science and knowledge practices disadvantage women*, and other subordinate groups, with the goal of reforming these practices. An important part of feminist critique is to show that such efforts substantially improve the overall quality of research.</p> <p>The semester will start with an introductory lecture acquainting students with research questions in the field of Gender and Science by summarizing its key concepts and methods. It will then continue as a series of weekly guest lectures, given by scholars from different scientific disciplines, that provide accessible insights into the intersection between gender studies and the guest lecturer’s research field. Students will thereby be encouraged to learn from concrete examples rather than abstract theory. The goal is for students to understand how to apply concepts and methods of gender studies to particular disciplines. A mid-term discussion session and end-term assignment will provide students the opportunity to critically reflect on how these questions are relevant for their own academic practices.</p>
Time and Venue	Tuesdays, 18.15-19.45, Main Building (HG), Room E 33.1 <u>Arrive at the lecture hall at 18.00 sharp to allow time for certificate checks!</u>
Hybrid Format	Classroom attendance only with valid COVID certificate and ID. Live stream via zoom (also open to public). No recorded lectures.
Organising Committee	Claire Louise Blaser (contact: clblaser@ethz.ch), Monique Ligtenberg, Bessie Noll, Jelscha Schmid, Ronja Sczepanski & Viktoria Guido

Program Overview

21.09.	Prof. Dr. Nadja El Kassar <i>Freie Universität Berlin</i>	Gender and Science: An Introduction
28.09.	Dr. Katharina Fellnhöfer <i>ETH Zürich / Harvard University</i>	Intuitive and analytical decision-making and its impact
05.10.	Prof. Dr. Annette Vogt <i>Max Planck Institute for the History of Science / HU Berlin</i>	Women scientists in Europe – from outsider to normality?
12.10.	Dr. Rebecca Choi <i>ETH Zürich</i>	Muddy Waters: Swamps, Architecture, and an Alternative Ecosystem
19.10.	Prof. Dr. Corinna Bath <i>Technische Universität Braunschweig</i>	From fairness towards a response-able technology design. How to overcome (gender) biases in IT and AI?
26.10.	Nana Dankwa Kesewaa, MSc <i>Universität Kassel</i>	“Are you thinking about me?” Traversing gender/diversity in the design of smart tech
02.11.	<i>Mid-term Discussion (registered participants only)</i>	
09.11.	Prof. Dr. Rachael Garret <i>ETH Zürich</i>	The role of women in sustainable development and a forest transition in the Brazilian Amazon
16.11.	Prof. Dr. Petra Lucht <i>Technische Universität Berlin</i>	Transdisciplinary Research on ‘Gender’ in Science, Technology, and Society
23.11.	Dr. Michal Berkowitz <i>ETH Zürich</i>	Insights from psychological research on gender, science and stereotypes
30.11.	Prof. Dr. Anelis Kaiser <i>Universität Freiburg (D)</i>	Gender in Neuroscience
07.12.	Prof. Dr. Anikó Hannák <i>Universität Zürich</i>	New Faces of Bias in Online Labor Markets
14.12.	Prof. Dr. Rebekka Hufendiek <i>Universität Bern</i>	Revival of the Undead: The Nature Nurture Debate and Reactionary Ideology
21.12.	<i>Final Discussion (registered participants only)</i>	

Detailed Program

Week 1 Gender and Science: An Introduction

September 21 *Prof. Dr. Nadja El Kassar*
Institute of Philosophy, Freie University Berlin

This lecture introduces key concepts, methods and background assumptions of research in the field of gender and science.

Week 2 Intuitive and analytical decision-making and its impact

September 28
on zoom only *Dr. Katharina Fellnhöfer*
Department of Management, Technology and Economics, ETH Zurich &
Department of Sociology, University of Harvard

Our knowledge of intuitive decision making and its successful interplay with its analytical counterpart remains in its infancy. This lecture will provide an overview of the academic discourse and latest empirical research in this regard, particularly regarding gender differences, to shed more light on the myth of female intuition.

Week 3 Women scientists in Europe - from outsider to normality?

October 5
on zoom only *Prof. Dr. Annette Vogt*
Max Planck Institute for the History of Science & Humboldt University Berlin

In 1928 the German biologist and tissue researcher Rhoda Erdmann (1870-1935) published an autobiographical article in the then famous book "Leading Women of Europe" (*Führende Frauen Europas*, edited by the journalist Elga Kern (1888-1957)) where she stressed: "Evaluators are looking into all countries. Sometimes they find separate women whose productive work had left certain traces in the development of the sciences concerned. But these traces seem to be weak, often fade away. Very rarely a name enters your head with unambiguous energy like the name of Madame Curie" (Erdmann 1928, 35). The two volumes of "Leading Women", published in 1928 and 1930, are a unique document of the development of women's movement and women scientists. About 100 years later, we still want to know whether there were women scientists, and what they contributed to science. In contrast to Rhoda Erdmann, we are able to mention more names than Curie and her (very few) academic sisters who were awarded a prestigious Nobel Prize. As Erdmann emphasized quite correct already in 1928, the circumstances are responsible for whether women scientists were (and are) able to contribute to the development of the sciences. In this lecture, I will give an overview of the circumstances of women scientists in Europe from about 1880 to recent times from a comparative perspective. We analyze the chances and opportunities women had - to study, to receive an academic degree, to get academic positions, to access laboratories and the necessary equipment, to get resources to do best research, to be able to publish, and finally, to be equally acknowledged.

Week 4 Muddy Waters: Swamps, Architecture, and an Alternative Ecosystem

October 12
on zoom only

Dr. Rebecca Choi

Institute for the History and Theory of Architecture, ETH Zurich

In 1940, Amaza Lee Meredith designed Azurest North, a marshland development project, a site with vacation homes for rent aimed at middle-class Black families, bolstered by the creation of Azurest Syndicate, a group formed to sustain the growth of community relationships. Meredith, herself a Black woman from Virginia, was one of few women practicing architecture in the US in the 1940s, and one of an even smaller cohort of Black women to do so.

This presentation is premised on the notion of the swamp a site of contradictions: unlike a plantation, a swamp has little to contribute in the way of monocrop capitalism; yet as the host for alternative ecosystems, it could also be a site of environmental and social rebirth. Part of my project "Swamp Life," this presentation considers Meredith's work as developer-architect on land considered otherwise derelict, or of little use.

Week 5 From fairness towards a response-able technology design. How to overcome (gender) biases in IT and AI?

October 19

Prof. Dr.-Ing. Corinna Bath

Faculty of Mechanical Engineering, Technical University Braunschweig

Artificial intelligence, particularly machine learning, is often built on data from or about users. Hence, this technoscientific endeavor is inextricably entangled with the social and its subjectivities. Nevertheless, some proponents of the field claim the neutrality and objectivity of AI's results. Despite of the promises that algorithms can make better choices than medical experts or human recruiters, numerous case studies demonstrate biases and discrimination with respect to gender, race, economic conditions or other social categories (e.g. O'Neil 2016, Noble 2018, Eubanks 2018, Benjamin 2019).

In my talk I will not only point to some of these examples. Rather my objective is to unfold the underlying mechanisms with the tools from gender studies in computing and discuss technology design methodologies. By drawing on feminist science and technology studies, I will propose a shift from ethics and fairness approaches towards the concept of response-ability (Haraway, Barad) as framework for feminist knowledge politics and action in the field.

Week 6 “Are you thinking about me?” Traversing gender/diversity in the design of smart tech

October 26

*Nana Kesewaa Dankwa, MSc
Faculty of Electrical Engineering/Computing, University of Kassel*

Imagine the possibility to return tech gadgets back to the developer due to its consequences on your life and receive compensation. You might find this cool or rather dreadful depending on which side of the table you sit. Over the years, the design and development of tech which finds its roots in computing has grappled with the integration of the concept of human or the user. The consequences of which we have to deal with every day. Who are most designers and developers thinking about when we think user? How are we drawing borders and demarcating spaces of use in the design of smart tech? In this presentation, I share the theory, practice, world views and personal experiences of the role of gender/diversity in driving the design and development of smart tech. I hope this presentation challenges us to define ways of looking beyond and above in the design and development of smart tech.

Week 7 Mid-term Discussion

November 2

with the Lecture Series Organizing Committee from SWiSH

Week 8 The role of women in sustainable development and a forest transition in the Brazilian Amazon

November 9

*Prof. Dr. Rachael Garrett
Department of Environmental Systems Science & Department of
Humanities, Social and Political Sciences, ETH Zurich*

Achieving a socially just forest transition in the Brazilian Amazon requires inclusion and empowerment of the most vulnerable and underrepresented actors in society. Numerous social movements now exist across different vulnerable groups, including indigenous, riverine, and former slave communities, among others. But even within these communities, the voices of women and the youth are particularly hidden, despite their unique potential to contribute to a forest transition. This talk describes the invisibility of women in the Brazilian Amazon and highlights bright spots where their inclusion into forest governance processes and overall empowerment has led to improved outcomes both for forests and community wellbeing.

Week 9 Transdisciplinary Research on 'Gender' in Science, Technology, and Society

November 16

Prof. Dr. Petra Lucht

Center for Interdisciplinary Women's and Gender Studies, TU Berlin

The first part of this presentation outlines a programmatic matrix linking three areas: (1) taxonomies of research on gender in science, technology, and society, (2) research paradigms in gender studies, and (3) transdisciplinarity. It will refer to a three-folded taxonomy of gender in science, technology and society: (a) research on professional cultures, (b) research on knowledge and (c) research on technological artefacts and innovation. References to "gender theories on the move" are made that resonate with women's studies, gender research, queer and disability studies, intersectionality, new materialism, ecofeminism and postcolonial studies. "Gender" is seen not as a pre-existing entity but as temporary fabrications resulting from historical, social and political processes. In the second part, I offer case studies of research-based teaching and research projects on gender in science, technology, and society at my chair "Gender in MINT und Planung/Feminist STS". These show how fabrications of "gender" in relation to STEM shape everyday knowledge and life in society. It is necessary to integrate such knowledge into the curricula and research areas of STEM and planning disciplines to enable scientists and engineers to consider and evaluate solutions. Only then can we aspire to a gender- and diversity-just sustainable future.

Week 10 Insights from psychological research on gender, science and stereotypes

November 23

Dr. Michal Berkowitz Biran

Department of Humanities, Social and Political Sciences, ETH Zurich

Different branches of psychology address questions regarding "gender and science", mostly derived from one overarching question: why are there unequal gender distributions in mathematics-intensive fields? This lecture will provide an overview of major findings from empirical research in psychology regarding this question, with a focus on example studies on gender-science stereotypes.

Week 11 Gender in Neuroscience

November 30

Prof. Dr. Anelis Kaiser Trujillo

Department of Computer Science, University of Freiburg

The topic of sex/gender crosses the research field of neuroscience on different levels. But for some time now, studies have mainly focused on examinations of sex/gender difference, i.e., research that reveals differences between women's and men's brains. Recently, however, the sex/gender variable has started to be explored in terms of a human brain continuum. This talk will highlight this progression.

Week 12 New Faces of Bias in Online Labor Markets

December 7

Prof. Dr. Anikó Hannák
Department of Informatics, University of Zurich

The internet is fundamentally changing the labor economy. Millions of people use sites like LinkedIn, Upwork, StackOverflow to find employment, learn and keep up-to date with their professional communities. These online services are often driven by algorithms that rate, sort, recommend content, match workers and employers. In theory, many of the mechanisms that cause discrimination in traditional labor markets – cognitive bias, network homophily, statistical discrimination – should be absent from online markets. However, recent studies indicate that these mechanisms do transfer to online platforms, where they may be exacerbated by seemingly harmless design choices.

In this talk I will investigate common techniques that online platforms use to match users with content, and their effects on users' participation and outcomes. By analysing large scale user data, I show that biases known from traditional labor markets are indeed present in online platforms, although they manifest in new ways. Demographic features are often correlated with the amount of attention and the social feedback users and employees receive. Exploring these new forms of inequalities, understanding where social biases enter systems and which mechanisms reinforce them, can be crucial for developing mitigation strategies.

Week 13 Revival of the Undead: The Nature Nurture Debate and Reactionary Ideology

December 14

Prof. Dr. Rebekka Hufendiek
Institute of Philosophy, University of Bern

Looking at public debates, we can observe an apparently never ending interest in supposed scientific facts about biological differences between groups of human beings: be it between the sexes, races or classes. A study that claims to have observed differences in play behavior between boys and girls or in IQ between black and white people, no matter how obviously marginal or even poorly conducted it is, will almost certainly find great resonance within public media debates as well as in the subreddits and YouTube Channels of the so called Intellectual Dark Web.

In this talk, I argue that the current prominence of largely outdated views on sex, race, and class differences in human behavior and cognition in popular science books and throughout the Intellectual Dark Web is part and parcel of current reactionary ideology. The reference to „science“ is used to justify social inequalities by framing them as natural. I suggest that this justificatory use of marginal and poorly conducted studies needs to be analyzed and addressed by scientists, philosophers of science, and social critics alike. I conclude by making some suggestions for successful argumentative interventions in this field.

Week 14 Final Assignment Deadline + Discussion

December 21
on zoom

Course Requirements

This course is worth 2 ECTS (expect 50-60 hours of work).

We require regular class attendance and active participation in the discussion/Q&A sessions.

The specific requirements to pass this course are as follows:

- (1) As minimum measure of active participation you need to ask at least **one question each at two different guest lectures**.
- (2) You are required to fill out a short and **ungraded “check-in” questionnaire** on the course moodle page at two points in the semester (beginning and end). To pass the course, you have to complete these check-ins before the deadlines.
- (3) The only graded task in this course will be the **final assignment**, which is due on **December 14, 2021**. Detailed instructions for this assignment are found on moodle.
- (4) Finally, you will be asked to write a **peer feedback** on the final assignment (video) of one group, to be completed by noon before our last meeting on **December 21, 2021**.

Readings & Learning Materials

There will be no mandatory readings to prepare for the guest lectures. To be able to complete the final assignment, you will need to be familiar with some of the foundational texts in gender and science studies, the three core concepts we discuss in the mid-term session and read up on at least one specific (applied) context. We will be updating the moodle course site with general readings, suggested readings from the guest lecturers and other resources continuously throughout the semester.

We also welcome your suggestions on readings or other useful materials and will share them with the class via moodle.

Remote Participation

Some lectures will be held entirely online, while the rest will take place in a hybrid format. We will inform you of the format each week in advance of the lecture. There will always be the possibility to participate in the lecture remotely via zoom.

Permanent zoom link (valid for the entire semester):

<https://ethz.zoom.us/j/62279811756>

Write both your first and last name as well as the addition “(student)” behind your name so that we can identify you in the zoom meeting and prioritize your questions during the discussions.