MNSES9100 Autumn 2018 (22nd–26th October)

TIMETABLE + READING LIST

*Starred items **are papers that will be discussed in detail during class and students are particularly recommended to read beforehand, *is primary syllabus material, and supports the lectures given. The other entries are suggestions for further reading for those who want to research the lecture topic further, e.g., in connection with writing essays. The essay seminar leaders will be able to recommend additional reading for essay writing material*

WEEK 1

Monday 22nd Morning — Helga Engs Hus Aud 3

0915-1000 **Introduction to the Course and History of Philosophy of Science (***Deborah Oughton***)**

1015-1200 **Demarcation of Science from other Disciplines: Popper and Falsification (***Deborah Oughton***)**

1200-1315 **Lunch**

Reading
**Popper, K. "Conjectures and refutations" in Klemke et al (eds.) *Introductory Readings in the Philosophy of Science* (Prometheus 1998).
http://www.calpoly.edu/~fotoole/321.1/popper.html
*Chalmers, A. *What is this thing called science?* (3rd. edition, Open University Press 1999): Intro., ch. 1, (2), (3), 4, 5, (6) 7 (bracketed chapters less central).
*Kitcher, P. „Believing where we cannot prove"in Klemke et al (eds.) *Introductory Readings in the Philosophy of Science* (Prometheus 1998) (article available on MNSES website)

Monday 22rd Afternoon — FY Store fysiske Aud

1315-1400 **Research Ethics I: Introduction to Research Ethics; Scientific Integrity and Misconduct (***Deborah Oughton***)**

Topics: Intrinsic research ethics; Duties towards other scientists and research subjects (animals, humans); fraud and misconduct in science.

Case studies: Research subjects – Stanley Milgram; Fraud Accusations – Jon Sudbø (Norway), Haruko Obokata (Japan)

1415-1500 **Group Discussion: The "Scientific" Method?**

1515-1600 **Research Ethics I cont: (***Deborah Oughton***)** Helga Engs Hus Aud 3

Background literature
*Peach, L. An introduction to ethical theory, in: *Research Ethics: Cases and Materials* (Penslar, R.L) Indiana University Press, 1995, 13-26 (article available on MNSES website)
*Shrader-Frechette, K. Introduction to research ethics, in *Ethics of Scientific Research* (K. Shrader-Frechette), Rowman and Little 1994. (article available on MNSES website)

*#overlyhonestmethods see pdf on website

Tuesday 23rd Morning — Vilhelm Bjerknes Hus Aud 1

0915-1200 **Science education in an international perspective: For sustainable development, empowerment and solidarity -- or for economic competition and domination? (***Svein Sjöberg***)**

Topics: School science at a national level is influenced by international organizations, like the UN, European Union, OECD and the World Bank. But these organizations may have conflicting values and ideals. What can we learn (and not learn) from comparative studies in science and mathematics education, like PISA and TIMSS? On standardization, testing, competition, globalization, commercialization and market-driven policies in education.

*Sjøberg, S. (2017). Pisa testing: A global educational race?. Europhysics News 2017 ;Volum 48.(4) s. 17-20
https://www.europhysicsnews.org/articles/epn/pdf/2017/04/epn2017484p17.pdf
Sjøberg, S. (2016). OECD, PISA, and Globalization. The Influence of the International Assessment Regime.In Tienken, C. H.& Mullen, C. A. (Eds). (2016). Education Policy Perils. Tackling the Tough Issues. Routledge
https://www.researchgate.net/publication/286869934_OECD_PISA_and_Globalization_The_Influence_of_the_International_Assessment_Regime
Sjøberg and Schreiner (2010). The ROSE project (The Relevance of Science Education): Overview and Key findings.
http://folk.uio.no/sveinsj/ROSE-overview_Sjoberg_Schreiner_2010.pdf
Sjøberg (2002). Science and Technology in Education: Current Challenges and Possible Solutions in Innovations in Science and Technology Education, Paris, UNESCO
http://folk.uio.no/sveinsj/STE_paper_Sjoberg_UNESCO2.htm

1200-1315 **Lunch**

Tuesday 23rd Afternoon Georg Morgenstiernes Hus: Aud 103

1315-1400 **Research Ethics II: Ethical Theories (***Andreas Carlsson, ConceptLab, IFFIK***)**

Topics: Ethics and ethical theories, case studies

1415-1500 **Group Discussion**

1515-1600 **Research Ethics II: Ethical Theories cont .**

*Beachamp, T. and Childress. *Principles of Biomedical Ethics.* Fifth Edition. 2001. Chapters 1, 2, 8 & 9 (article available on MNSES website)

Wednesday 24th Morning Helga Engs Hus Aud 2

This day is dedicated to a series of lectures and discussions that primarily address ethical challenges with publication and dissemination of research, but also aims to provide students with information on where they can find practical support to help them in during their PhD studies. In addition to publication and authorship, information will be provided on research ethics committees, ethical guidelines and the various services available from the UiO library.

0915-0935 **Library 101: A brief introduction to the University Library (***Torgunn Karoline Moe***,** *Science Library, UiO)*

Useful websites:
http://www.ub.uio.no/
http://www.phdontrack.net/

0935-1000 **Research Ethics III: Research Ethics Guidelines**: P**ublication, Authorship and the Vancouver Recommendations (***Deborah Oughton***)**

1015-1100 **Group Discussion** – publication and authorship

1115-1200 **Research Ethics III: Guidelines**: P**ublication, Authorship and the Vancouver Recommendations (***Deborah Oughton***)**

** The National Committees for Research Ethics in Norway; Guidelines for research ethics in science and technology. 2nd Edition (2016) https://www.etikkom.no/en/ethical-guidelines-for-research/guidelines-for-research-ethics-in-science-and-technology/

This gives a link to the English version. The guidelines are also available in Norwegian, and Guidelines are available from the same site for Research Ethics in the Social Sciences, Law and the Humanities (2016), as well as Internet Research (2014)

"Vancouver Recommendations": ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals www.icmje.org See particularly *Defining the Roles of Authors and Contribiutors.* http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html

Wednesday 24th Afternoon — Helga Engs Hus Aud 3

1315-1530 **Prepare to publish: A guide to the publishing process, Open Access publication, self archiving, data management, and managing your impact.** (*Torgunn Karoline Moe, Heidi Sjursen Konestabo, Edina Pózer Bue, Science Library*)

Useful websites:

http://www.sherpa.ac.uk/romeo/index.php
https://doaj.org/
http://www.nsd.uib.no/nsd/english/scientific_journals.html
https://arxiv.org/
https://www.duo.uio.no/
http://www.cristin.no/english/

1530-1600 **Advice on Essay Writing (***Deborah Oughton*)

Thursday 25th Morning — Helga Engs Hus Aud 2

0915-1000 **Ethical Aspects of Robotics, AI and IoT: UNESCO/COMEST reports (***Deborah Oughton***)**

*COMEST Robotics Report (2017), UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) www.unesco.org/new/en/social-and-human-sciences/themes/comest/robotics-ethics/

1015-1200 **Ethical Challenges in Information Technology (***Charles Ess***)**
**Ess, Charles 2015. New selves, new research ethics? In: Fossheim, Hallvard and Ingierd, Helene. Internet Research Ethics
http://press.nordicopenaccess.no/index.php/noasp/catalog/book/3
*Markham, A. and Buchanan, E. 2012. Ethical Decision-Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0): http://aoir.org/reports/ethics2.pdf

Additional Reading
Ess, Charles. 2014. Ethics at the Boundaries of the Virtual. In The Oxford Handbook of Virtuality, ed. Mark Grimshaw, 683-697. Oxford: OUP.

Thursday 25th Afternoon

1315-1400 **Science, Pseudoscience and Ideology (**Deborah Oughton**)** Kjemi Aud 3

Topics: From scientific objectivity to social construction of science (Kuhn, Lakatos, Feyerabend); "Alternative Facts", Links between science, politics and ideology.

Case Studies: Galileo, Lyscencho, Creationism, Alternative medicine, Climate change research

1415-1500 **Group Discussion**

1515-1600 **Science, Pseudoscience and Ideology (**cont.**)** Helga Engs Aud 3

Reading
**Feyerabend, P. "How to defend society against science" in Klemke et al op. cit.
http://www.calpoly.edu/~fotoole/321.1/feyer.html
Chalmers op. cit.: ch. 8, 9, 10, 11.
**Ziman, 2009. Is Science losing its objectivity? Nature (article available on MNSES website)
*Ian Hacking on Thomas Kuhn's Legacy as "The Paradigm Shift" Turns 50. Scientific American (2012). http://www.scientificamerican.com/article/kuhn/
*Thagard, P.R. „Why astrology is a pseudoscience" in Klemke et al (eds.) *Introductory Readings in the Philosophy of Science* (Prometheus 1998).
http://watarts.uwaterloo.ca/~pthagard/Articles/astrology.pdf

Friday 26th Morning Helga Engs Hus Aud 2

0915-1000 **Environmental Ethics and Animal Rights (***Andreas Carlsson, ConceptLab, IFFIK***)**

1015-1100 **Group Discussion**

1115-1200 **Environmental Ethics and Animal Rights (cont)**

Topics: Animal rights; "Valuing" the environment: anthropocentrism, biocentrism, ecocentrism.

**Elliot, R. Environmental Ethics, in: A Companion to Ethics (Singer, P. ed) 1992, 284-510 (Blackwell) (article available on MNSES website)
*Singer, Peter. Animal Liberation, In: *Environmental Philosophy* (Zimmerman et.al.) 1993, 22-32
See also: http://www.utilitarian.net/singer/by/1979----.htm

Regan, Tom. Animal Rights. In: *Environmental Philosophy* (Zimmerman et.al.), 1993, 33-48.
Tom Regan. The case for Animal Rights
http://faculty.webster.edu/corbetre/philosophy/animals/regan-text.html
Naess, A. The deep ecological movement: Some philosophical aspects. *Philosophical Inquiry*, 1986, 10-31

1200-1315 **Lunch**

Friday 26th Afternoon Helga Engs Hus Aud 1

1315-1500 **Research Ethics IV: Science, Society and Risk (***Deborah Oughton***)**

Topics: Societal consequences of research; Risky technologies, Risk Assessment and management, probability, statistics and bias.

*Oughton and Strand: Risk and Uncertainty As a Research Ethics Challenge
https://www.etikkom.no/Vart-arbeid/Hva-gjor-vi/Publikasjoner/Risk-and-Uncertainty---as-a-Research-Ethics-Challenge/

Additional Reading All Topics

Philosophy of Science

Kuhn, T. *The Structure of Scientific Revolutions,* 2nd edition (University of Chicago Press), Postscript (pp.174-210)

Latour, B. 1983. Give me a laboratory and I will raise the world. In *Science Observed: Social Perspectives on Science* http://www.bruno-latour.fr/sites/default/files/12-GIVE-ME-A-LAB-GB.pdf

Ziman, John M. (1968), "What Is Science?", from John M. Ziman, Science Is Public Knowledge (Cambridge, UK: Cambridge University Press).

Collins, H. and Pinch, T. "Edible Knowledge: the chemical transfer of memory" and "Two experiments that 'proved' the theory of relativity", in *The Golem: What Everyone should know about Science,* 2nd Edition (Cambridge University Press, 2012). The First edition, with both chapters can be downloaded from:
http://sciencepolicy.colorado.edu/students/envs_5110/collins_the_golem.pdf

Knorr, K.D.: "Tinkering Towards Success: Prelude to a Theory of Scientific Practice". In *Theory and Society* Vol 8 (1979), pp. 347-376 (article available on MNSES website)

Ethics

Case Studies

Milgram: Blass, T. 2002. The man who shocked the world. *Psychology Today* http://www.psychologytoday.com/articles/200203/the-man-who-shocked-the-world

Obokata: 2015 .http://www.theguardian.com/science/2015/feb/18/haruko-obokata-stap-cells-controversy-scientists-lie

Biohacking: https://www.nytimes.com/2018/05/14/science/biohackers-gene-editing-virus.html

Helen Longino. Gender and racial biases in scientific research, in *Ethics of Scientific Research* (K. Shrader-Frechette), Rowman and Little 1994, 139-151.

Science and Society

Schwartz, S. (2006) Value, Ethics and Teaching. In: "*Values and Ethics: Managing Challenges and Realities in Higher Education*", IMHE /OECD: Paris (article available on MNSES website)