



Fern Wickson PhD, BA (Hons), BSc

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(h-index=24, RG Score=33.93)

HIGHER EDUCATION

2002-2006 PhD (Environmental Governance, awarded by both Natural & Social Science faculties)
University of Wollongong, Australia, *Graduated with Special Commendation*

Thesis Title: "From Risk to Uncertainty: Australia's environmental regulation of genetically modified crops". This thesis performed a critical appraisal of Australia's environmental regulation of genetically modified crops through an interdisciplinary integration of environmental science, policy and philosophy. It challenged the adequacy of realist risk analysis for political decision-making on recombinant DNA technologies and proposed alternative theoretical frameworks and new methodological approaches to better handle the scientific uncertainties involved and the contested social and ethical values at stake.

2001 BA Honours, Environmental Politics
University of Tasmania, Australia, *Graduated First Class*

1995-1999 BA/BSc, Majoring in Political Science and Ecology
Australian National University, Australia, *Graduated both degrees with Distinction*

RECENT EMPLOYMENT HISTORY

12/2021 – UiT – the Arctic University of Norway – Professor of Ocean Leadership

10/2018 – North Atlantic Marine Mammal Commission – Scientific Secretary

10/2021

02/2019 – GenØk Centre for Biosafety – Contracted Facilitator for Interdisciplinary Workshops

10/2020

11/2015 – GenØk Centre for Biosafety – Research Professor & Research Group Leader for the 2018 transdisciplinary collaborative on Responsible and Sustainable Biotechnoscience (RootS)

07/2009 – GenØk Centre for Biosafety – Scientist & Research Group Leader (from 2011) of the Society, Ecology & Ethics Department (SEED)

07/2012 – University College of Oslo and Akershus – Senior Researcher (20% position)

12/2014

01/2007 – University of Bergen – Postdoctoral Fellow with the Centre for the Study of Sciences & the Humanities

04/2008 – University of Bergen – Associate Professor (50% position) with the Centre for the Study of the Sciences and the Humanities

INTERNATIONAL COMMITTEE WORK

Homeward Bound Global Leadership Initiative

Engaged as the Lead Facilitator for the 4th cohort of the Homeward Bound Leadership Initiative in 2019. Involved facilitating 3 weeks of leadership training for 100 women in STEMM delivered by 12 interdisciplinary faculty members onboard a ship in Antarctica. Topics included leadership in times of environmental crisis, the impacts of climate change, science communication & visibility, values & strategic planning, diplomacy & negotiation, and having difficult conversations.

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

Expert delegate to a working group tasked with providing a guide regarding diverse conceptualizations of the multiple values of nature and its benefits, including biodiversity and ecosystem services 2013-16

The Society for the Study of Nanoscience & Emerging Technologies (S.Net)

President of the Society from 2013-2016 and Member of the board from 2011 – 2016

International Union for the Conservation of Nature (IUCN)

Leader of an international task force in 2014 to develop the terms of reference for a new thematic group on nanomaterials and ecosystems

The European Network of Scientists for Social and Environmental Responsibility (ENSSER)

Appointed as a member of the Board and served from July 2013-2016

International Organisation for Standardisation (ISO)

Expert delegate to Nanotechnologies (TC229), working group 3 on “Health, Safety & Environment”

European Committee for Standardization (CEN)

Expert delegate to Nanotechnologies (TC352), for New Work Item "Nano-responsible development: Integration of risk and benefit assessment in the production, marketing and use of nanotechnologies, nanomaterials and/or products including nanomaterials"

NATIONAL COMMITTEE WORK

National Select Committee on Gene Technologies (NoU-Utvalg Genteknologi)

Appointed as a member in November 2020 and work scheduled to complete in 2022.

The Norwegian Biotechnology Advisory Board

Appointed as a member of the Board in December 2013 and served a 5 year term.

Norwegian Research Council – Board of Biotechnology Research Program (BIOTEK 2021)

Appointed as a member of the board in November 2011 and served a 4 year term.

Norwegian Research Council – Board of Ethical, Legal & Social Aspects Research Program (ELSA)

Appointed as a member of the board in December 2011 and served a 3 year term.

PRIZES & HONOURS

Homeward Bound – Global Leadership Initiative for Women in STEMM (2018, 2nd cohort)

Selected for a 12-month global leadership training program for women in STEMM (science, technology, engineering, mathematics and medicine).

The Academy of Transdisciplinary Learning and Advanced Studies (ATLAS) (2016)

Awarded an honorary fellowship for outstanding contributions to transdisciplinary teaching and learning.

DDS. Einar Bergersen’s Prize for Excellence in Scientific Research (2009)

Awarded 43,000 NOK in recognition of outstanding interdisciplinary research.

University of Wollongong Postgraduate Award (2002)

Awarded a 3 year funded scholarship to undertake a PhD.

Golden Key National Honours Society (1995)

Awarded lifetime membership for the achievement of outstanding academic results.

RESEARCH GRANTS AWARDED

ONGOING:

Research Project - Project Manager Role (partners in the UK, USA)

“ReWrite: New Knowledge to Navigate the Rewriting of Human/Nature Relations through Genome Editing in the Search for Sustainable Food” (Funding: Research Council of Norway, SAMKUL: 8,994,000 NOK) (Applied and won funding as project manager - transferred project to another manager when I took a new job with a different institution but remain involved in the project as a senior advisor. The project has a specific focus on developing feminist and relational ethics frameworks for evaluating new biotechnologies).

Research Project - Project Partner Role (partners in Austria, Germany, Estonia, the Netherlands, Spain)

“Excellence in science and innovation for Europe by adopting the concept of Responsible Research and Innovation” (NewHoRRIZon) Project Manager: Erich Griessler (Funding: European Commission, Horizon 2020 program: EUR 6,799,960). Although the project continues, not actively involved after move to NAMMCO.

COMPLETED:

Research Projects - Project Manager Role

2014-2019: “The Agri/Cultures Project: Operationalising Norway’s Gene Technology Act and its Requirement for Social and Ethical Justifiability” (Funding: Research Council of Norway, FRIPRO young research talents: NOK 6,975,000) (*partners in Spain, South Africa, USA*)

2014-2018: “Conserving the Genetic Biodiversity of Maize in Mexico: Understanding a complex problem and developing participatory solutions” (biodiverSEEDY) (Funding: Research Council of Norway, Latin America Program: NOK 5,750,000) (*partners in Mexico, USA*)

2010-2014: “Integrating ecotoxicology and ethics for responsible ecological governance” (EcotoxEthics) (Funding: Norwegian Research Council, ELSA: NOK 3,354,000) (*partners in the UK, USA, Netherlands*)

Research Projects - Project Partner Role

2015-2019: “Responsibility as an Integral Component of Digital Research Practices in Bio- and Nanotechnology” (REDIG) *Project Manager*: Dr. Ana Delgado (Funding: Research Council of Norway, ELSA, BIOTEK2021 & NANO2021)

2014-2017: “National initiative towards developing a common approach to the regulatory testing of manufactured nanomaterials”. (NorNanoReg) *Project Manager*: Lise Fjellsbo (Funding: Research Council of Norway, NANO2021)

2013-2017: “A common European approach to the regulatory testing of nanomaterials” (NANoREG) *Project Manager*: Dr Tom van Teunenbroek (Funding: European Commission FP7)

2012-2017: “International Research Cluster on NanoSafety” *Project Manager*: Prof. Enzo Lombi (Funding: South Australian Collaboration Pathway Program).

2007-2009: “NanoEthics: Interdisciplinary studies of Ethical and Societal Implications of Nanotechnology” *Project Manager*: Prof. Roger Strand (Funding: Research Council of Norway)

2008-2009: “NANOPLAT: Development of a Platform for Deliberative Processes on Nanotechnology in the European Consumer Market”. *Project Manager*: Eivind Stø (Funding: European Commission)

2006-2009: “RiskBridge: Building robust, integrative, interdisciplinary governance models for emerging and existing risks”. *Project Manager*: Jaap van der Vlies (Funding: European Commission)

Research Projects - Expert Advisor Role

“Public Involvement with Exhibition on Responsible Research and Innovation” (PIER) *Project Manager*: Guglielmo Maglio (Funding: European Commission).

International Event Funding

2016: “Networking Event to Advance Nanosafety in Norway” (Funding: Norwegian Research Council, NANO2021 – National Workshop)

2015: “Responsible Risk? Achieving good governance of agricultural biotechnology” (Funding: Norwegian Research Council, BIOTEK2021 program – International Workshop)

Guest Researcher & Research Exchange Funding

2014: “Standardising Nanoecotoxicology for Ecologically Responsible Governance?” (Funding: Norwegian Research Council, ELSA program – Research Exchange)

2013: “Deliberating Concepts of Quality & Developing Robust Science for Policy” (Funding: Norwegian Research Council, ELSA program – Guest Researcher)

PUBLICATIONS

Edited Books by International Publishers

Kjølberg, K. & Wickson, F. (2010) Nano meets Macro: Social perspectives on nanoscale sciences and technologies (Pan Stanford Publishing: Singapore).

Articles in International Peer-Reviewed Journals

Wickson, F. (2021). Atlantic walrus management, regulation and conservation. In *The Atlantic Walrus: Multidisciplinary insights into human-animal interactions* (pp. 251-262). London: Academic Press.

Smout, S., Murray, K., Aarts, G., Biuw, M., Brasseur, S., Buren, A., ... & Wickson, F. (2021). Report of the NAMMCO-ICES Workshop on Seal Modelling (WKSEALS 2020). *NAMMCO Scientific Publications*, 12(1).

- Marshak, M., **Wickson**, F., Herrero, A., & Wynberg, R. (2021). “Losing practices, relationships and agency: ecological deskilling as a consequence of the uptake of modern seed varieties among South African Smallholders” *Agroecology and Sustainable Food Systems*, 1–24.
- Rivera López, F., **Wickson**, F., and Hausner, V.H. (2019) “Bridging different perspectives for biocultural conservation: art-based participatory research on native maize conservation in two indigenous farming communities in Oaxaca, Mexico” *Environment, Development, Sustainability* 22: 7427–7451.
- Preston, C. and **Wickson**, F. (2019) “Ethics and Governance” in H. Dressel (ed) *Gene Drives: A report on their science, application, social aspects, ethics and regulations*. Bern: Critical Scientists Switzerland.
- Lombi, E., Donner, E., Dusinska, M. and **Wickson**, F. (2019) “A One Health approach to managing the applications and implications of nanotechnologies in agriculture” *Nature Nanotechnology* 14: 523-531.
- Binimelis, R. and **Wickson**, F. (2018) “The troubled relationship between GMOs and beekeeping: an exploration of socioeconomic impacts in Spain and Uruguay” *Agroecology and Sustainable Food Systems* (published online 17 September 2018) <https://doi.org/10.1080/21683565.2018.1514678>
- Rivera Lopez, F., **Wickson**, F. and Hausner, V.H. (2018) “Finding CreativeVoice: Applying Arts-based Research in the Context of Biodiversity Conservation” *Sustainability* 10(6): 1778.
- Agapito-Tenfen, S.Z. and **Wickson**, Fern. (2017) “Challenges for transgene detection in landraces and wild relatives: learning from 15 years of debate over GM maize in Mexico” *Biodiversity Conservation* 27(3): 539-566.
- van Hove, L. and **Wickson**, F. (2017). “Responsible Research Is Not Good Science: Divergences Inhibiting the Enactment of RRI in Nanosafety”, *NanoEthics* 11(3): 213-228.
- Agapito-Tenfen, S., Rivera Lopez, F., Mallah, N., Abou-Slemayne, G., Trtikova M., Nodari, R.O., **Wickson**, F. (2017). “Transgene flow in Mexican maize revisited: Socio-biological analysis across two contrasting farmer communities and seed management systems” *Ecology and Evolution* 7(22): 9461-9472.
- Wickson**, F., Preston, C., Binimelis, R., Herrero, A. Hartley, S., Wynberg, R., and Wynne, B. (2017). “Addressing socio-economic and ethical considerations in biotechnology governance: The potential of a new politics of care” *Food Ethics* 1(2): 193-199.
- Hjorth, R., van Hove, L. and **Wickson**, F. (2017). “What can nanosafety learn from drug development? The feasibility of “safety by design”, *Nanotoxicology* 11(3): 305-312.
- Herrero, A.; Binimelis, R.; **Wickson**, F. (2017) Just existing is resisting: The everyday struggle against the expansion of GM crops in Spain. *Sociologia Ruralis* 57(S1): 859-880.
- Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., Watson, R. T., Dessane, E. B., Islar, M., Kelemen, E., Maris, V., Quaas, M., Subramanian, S. M., Wittmer, H., Adlan, A., Hahn, S., Al-Hafedh, Y. S., Amankwah, E., Asah, S. T., Berry, P., Bilgen, A., Breslow, S. J., Bullock, C., Caceres, D., Daly-Hassen, H., Figueroa, E., Golden, C. D., Gomez-Baggethun, E., May, P. H., Mead, A., O’Farrell, P., Pandit, R., Pengue, W., Pichis-Madruga, R., Popa, F., Preston, S., Pacheco-Balanza, D., Saarikoski, H., Strassburg, B. B., van den Belt, M., Verma, M., **Wickson**, F., Yagi, N. (2017) “Valuing nature’s contributions to people: the IPBES approach”, *Current Opinion in Environmental Sustainability* 26:7-16.
- Wickson**, F., Binimelis, R., and Herrero, A. (2016). “Should Organic Agriculture Maintain its Opposition to GM? New Techniques Writing the Same Old Story” *Sustainability* 8(11), 1105; doi: 10.3390/su8111105.
- Wickson**, F. (2016). “Do We Care About Synbiodiversity? Questions arising from an investigation into whether there are GM crops in the Svalbard Global Seed Vault”, *Journal of Agricultural and Environmental Ethics* 29:787-811.
- Hartley, S., Gillund, F., van Hove, L. and **Wickson**, F. (2016) “Essential Features of Responsible Governance of Agricultural Biotechnology” *PloS Biology* 14(5):e1002453.
- Preston, C. and **Wickson**, F. (2016) “Broadening the lens for the governance of emerging technologies: Care ethics and agricultural biotechnology” *Technology in Society* 45:48-57.
- Herrero, A., **Wickson**, F., Binimelis, R. (2015) “Seeing GMOs from a Systems Perspective: The Need for Comparative Cartographies of Agri/Cultures for Sustainability Assessment” *Sustainability* 7: 11321-11344.
- Miller, G. and **Wickson**, F. (2015). “Risk Analysis of Nanomaterials: Exposing Nanotechnology’s Naked Emperor” *Review of Policy Research* 32(4): 485-512.
- Hilbeck, A., Binimelis, R., Defarge, N., Steinbrecher, R., Szekacs, A., **Wickson**, F., Antoniou, M., Bereano, P.L., Clark, E.A., Hansen, M., Novotny, E., Heinemann, J., Meyer, H., Shiva, V., Wynne, B. (2015) “No scientific consensus on GMO safety” *Environmental Sciences Europe* 27(4): 1-6.
- Holderbaum, D.F., Cuhra, M., **Wickson**, F., Orth, A.I., Nodari, R., Bøhn, T. (2015) “Chronic Responses of *Daphnia magna* Under Dietary Exposure to Leaves of a Transgenic (Event MON810) Bt-Maize Hybrid and its Conventional Near-Isoline” *Journal of Toxicology and Environmental Health, Part A: Current Issues* 78(15): 998-1007.

- Wickson, F., Strand, R., Kjølberg, K.** (2015) “The Walkshop Approach to Science and Technology Ethics” *Science and Engineering Ethics* 21(1): 241-264.
- Wickson, F. and Forsberg, E.-M.** (2015) “Standardising Responsibility? The Significance of Interstitial Spaces” *Science and Engineering Ethics* 21(5): 1159-1180.
- Wickson, F.** (2014) “Environmental protection goals, policy and publics in the European regulation of GMOs” *Ecological Economics* 108: 269-273.
- Wickson, F. and Carew, A.L.** (2014) “Quality criteria and indicators for responsible research and innovation: learning from transdisciplinarity” *Journal of Responsible Innovation* 1(3): 254-273.
- Wickson, F. and Wynne, B.** (2012) “Ethics of Science for Policy in the Environmental Governance of Biotechnology: MON810 Maize in Europe” *Ethics, Policy and Environment* 15(3): 321-340.
- Grieger, K.D., Wickson, F., Andersen, H.B., & Renn, O.** (2012) “Improving Risk Governance of Emerging Technologies through Public Engagement: The Neglected Case of Nanoremediation?” *International Journal of Emerging Technologies and Society* 10: 61-78.
- Wickson, F., Gillund, F. and Myhr, A.I.** (2012) “Tratando as nanopartículas com precaução: reconhecendo a incerteza qualitativa na avaliação científica do risco” *Política & Sociedade* 11(20): 171-204.
- Wickson, F. & Wynne, B.** (2012) “The anglerfish deception: The light of proposed reform in the regulation of GM crops hides underlying problems in EU science and governance” *EMBO Reports* 13(2): 100-105.
- Wynne, B. & Wickson, F.** (2012) “Reply to J.N. Perry et al.” *EMBO Reports* 13(6): 482-483.
- Delgado, A. Kjølberg, K.L. & Wickson, F.** (2011) “Public engagement coming of age: From theory to practice in STS encounters with nanotechnology” *Public Understanding of Science* 20(6): 826-845
- Slaattelid, R. & Wickson, F.** (2011) “Imag(in)ing the Nanoscale: Introduction” Edited Special Issue of *NanoEthics* 5(2), pp. 159-163.
- Wickson, F.** (2011) “Nanotechnology Governance: Why we can’t rely on scientific risk assessment” *NanoMundo* (translated into Spanish) *MundoNano* 4(1): 33-56.
- Wickson, F., Grieger, K. & A. Baun** (2010) “Nature and Nanotechnology: Science, Ideology & Policy” *International Journal of Emerging Technologies & Society* 8(1), pp. 5-23.
- Carew, A. & Wickson, F.** (2010) “The TD Wheel: A heuristic to shape, support and evaluate transdisciplinary research” *Futures* 42: 1146-1155.
- Wickson, F., Delgado, A. & Kjølberg, K.L.** (2010) “Who or What is ‘The Public’?” *Nature Nanotechnology* 5(11), pp. 757-758.
- Wickson, F.** (2009) “Reliability Rating and Reflective Questioning: A case study of extended review on Australia’s risk assessment of Bt Cotton” *Journal of Risk Research* 12(6), pp.749-770.
- Wickson, F.** (2008) “Narratives of Nature and Nanotechnology” *Nature Nanotechnology* 3(6), pp.313-315.
- Russell, A.W., Wickson, F. & Carew, A.L.** (2008) “Transdisciplinary research: context, contradictions and capacity” *Futures* 40(5), pp. 460-472.
- Kjølberg, K., Strand, R., Delgado, G.C. & Wickson, F.** (2008) “Models of Governance for Converging Technologies” *Technology Assessment and Strategic Management* 20(1), pp. 83-97.
- Kjølberg, K. & Wickson, F.** (2007) ‘Social and Ethical Interactions with Nano: Mapping the early literature’ *NanoEthics* 1:2, p.89-104.
- Wickson, F., Nepstad, R., Am, T. & Winkler, M.** (2008) “Reflections on Philosophy of Nanoscience from Nanoscience Practitioners” *Nordic Journal of Applied Ethics (Etikk i Praksis)* 2(2), pp.73-92.
- Wickson, F.** (2007) “From Risk to Uncertainty in the Regulation of GMOs: Social Theory and Australian Practice” *New Genetics and Society* 26(3), pp. 325-339.
- Wickson, F., Carew, A.L. and Russell, A.W.** (2006) “Transdisciplinary research: characteristics, quandaries and quality” *Futures* 38(9), pp.1046-1059.
- Wickson, F.** (2005) “Australia’s Environmental Regulation of Genetically Modified Organisms: risk and uncertainty, science and precaution” *Griffith Journal of the Environment* 1(June) online.
- Wickson, F.** (2005) “Environmental Decision Making: Emerging Conceptualisations of Uncertainty and Precaution” *Rhizome* 1(1), pp. 147-162.
- Wickson, F.** (2004) “Australia’s Regulation of Genetically Modified Crops: Are We Risking Sustainability?” *Australian Journal of Emerging Technologies and Society* 2(Autumn) online.

Chapters in Edited Anthologies – Peer-reviewed

- Wickson, F.** (In Press). “Atlantic walrus management, regulation and conservation” in X. Alessandra Keighley, S.P.A. Desjardins, P. Jordan and M. Tange Olsen (eds) *The Atlantic Walrus*. Weber.
- Hoogensen Gjørsv, G., Oddsdóttir, E.E. and Wickson, F.** (2019) “Gender and intersectional approaches to security in the Arctic” in G. Hoogensen Gjørsv, M. Lanteigne, and H. Sam-Aggrey (eds) *Routledge Handbook of Arctic Security*. London: Routledge.

- Noer Lie, S.A., and **Wickson**, F. (2018). "Trans-ecology and Post-sustainability" in M. Bess and D. Walsh Pasulka (eds) *Posthumanism: The Future of Homo Sapiens*. Farmington Hills, MI: Macmillan Interdisciplinary Handbooks (Macmillan Reference USA), pp. 435-443.
- Wickson**, F. (2015) "The ontological objection to life technosciences" in A. Guimaraes Pereira & S. Funtowicz (eds) *Science, Philosophy and Sustainability: The End of the Cartesian Dream*. (Routledge: Oxon), pp. 61-77.
- Wickson**, F. (2013) "Environmental Ethics in an Ecotoxicology Laboratory" in S. Van Der Burg & T. Swierstra (eds) *Ethics on the Laboratory Floor*. Hampshire: Palgrave Macmillan, pp.129-150.
- Wickson**, F., Cobb, M & Hamlett, P. (2012) "The U.S. National Citizens' Technology Forum on Human Enhancement: An experiment in deliberation across a nation" in P. Strandbakken, G. Scholl, E. Stø (eds) *Consumers and Nanotechnology: Deliberative Processes and Methodologies*. Boca Raton: CRC Press, pp. 123-148.
- Wickson**, F. (2012) "Nanotechnology and Risk" in Maclurcan, D. & Radywyl, N. (eds) *Nanotechnology and Global Sustainability*. Boca Raton: CRC Press, pp. 217-240.
- Noer Lie, S.A. & **Wickson**, F. (2011) "The Relational Ontology of Deep Ecology: A dispositional alternative to intrinsic value?" in Aaro, A. & Servan, J. (eds) *Environment, Embodiment & History*. Bergen: Hermes Text, pp. 203-234.
- Wickson**, F., Gillund, F. & Myhr, A. (2010) "Treating Nanoparticles with Precaution: Recognising Qualitative Uncertainty in Scientific Risk Assessment" in K. Kjølberg & F. Wickson (eds) *Nano meets Macro*. Singapore: (Pan Stanford Publishing, pp. 445-472.
- Wickson**, F. & Kjølberg, K. (2009) "NanoVisions: An Experiment with NanoScientists" in Gammel, S. & Ferrari, A. (eds) *Visions of Nanotechnology*. Berlin: AKA Verlag, pp. 165-183.

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- Wickson**, F., Hartmann, N.B., Hjorth, R., Foss-Hansen, S., Wynne, B. and Baun, A. (2014) "Balancing Scientific Tensions" *Nature Nanotechnology* 9: 870.
- Wickson**, F., Bøhn, T., Wynne, B., Hilbeck, A., Funtowicz, S. (2013) "Science-based risk assessment requires careful evaluation of all studies" *Nature Biotechnology* 31: 1077-1078.
- Wickson**, F. (2011) "Technology: Nanomaterials need flexible regulation" *Nature* 476: 283
- Wickson**, F. (2010) "Mosquitos: Just how much biodiversity does humanity need?" *Nature* 466
- Wickson**, F. (2010) "Activists should be consulted in animal testing decisions" *Nature* 463:1018.
- Wickson**, F. (2009) "The next generation" *Nature Biotechnology* 27, p.120
- Wickson**, F. (2008) "What is nature, if it's more than just a place without people?" *Nature* 456:29
- Wickson**, F. (2007) "Public engagement means listening as well as talking" *Nature* 448/9, p.644.

Encyclopedia Entries in International Volumes - Peer-reviewed

- Binimelis, R., **Wickson**, F. and Herrero, A. (2016). "Agricultural coexistence", in Thompson, P.B. and Kaplan, D.M. (eds), *Encyclopedia of food and agricultural ethics*. Dordrecht, The Netherlands: Springer.
- Wickson**, F. (2010) "Images" and "Interdisciplinarity" in D. Guston (ed) *Encyclopedia of Nanoscience and Society* (SAGE: London)
- Wickson**, F. (2014) "Deep Ecology" and "Post-Normal Science" in *Ethics, Science, Technology, and Engineering: A Global Resource*. Ed. J. Britt Holbrook. 2nd ed. Vol. 1. (MI: Macmillan Reference: Farmington Hills).

Book Reviews – Reviewed by Editor

- Wickson**, F. (2013) "New Modes of Thought Required for the Age of Ecology" *Science and Public Policy* (online first) <http://spp.oxfordjournals.org/content/early/2013/03/19/scipol.sct026.full.pdf+html>
- Wickson**, F. (2012) "Researching Standards: No recipe, no risk" *Science and Public Policy* (online first) <http://spp.oxfordjournals.org/content/early/2012/12/16/scipol.scs111.full?keytype=ref&ijkey=YhtU8jgCz6YjqA3>
- Wickson**, F. (2007) "Talking about 'Nanotalk: Conversations with Scientists and Engineers about Ethics, Meaning and Belief in the Development of Nanotechnology'" *NanoEthics* 1: 73-74.

Policy Briefs

- Wickson**, F. (2017) *Responsible Development of Safe and Sustainable Nanomaterials: The needs, obstacles and opportunities for different stakeholders* GenØk Policy Brief, Tromsø Norway.
- Wickson**, F. Nielsen, K. & Quist, D. (2011) *Nano and the Environment: Potential Risks, Real Uncertainties and Urgent Issues* GenØk Biosafety Brief 01/2011
- Wickson**, F. (2009) *What you should know about nano* The Australia Institute, Policy Brief 8.

Science for Policy Reports - Rapporteur

- NAMMCO - North Atlantic Marine Mammal Commission and the Canada-Greenland Joint Commission on Conservation and Management of Narwhal and Beluga (In Press). Report of the Joint Working Group on Narwhal and Beluga, 2020, Tromsø: Norway
- NAMMCO - North Atlantic Marine Mammal Commission (2021). Report of the By-Catch Working Group, 2020, Tromsø: Norway.
- NAMMCO-North Atlantic Marine Mammal Commission (2021). Report of the 27th meeting of the Scientific Committee, January 25–29, Online. Available at <https://nammco.no/topics/scientific-committee-reports/>
- NAMMCO - North Atlantic Marine Mammal Commission and the Norwegian Institute of Marine Research. (2019). *Report of Joint IMR/NAMMCO International Workshop on the Status of Harbour Porpoises in the North Atlantic*. Tromsø: Norway. Available at https://nammco.no/topics/hpwwg_reports/
- NAMMCO - North Atlantic Marine Mammal Commission (2019). Report of the Abundance Estimates Working Group, October 2019, Tromsø: Norway. Available at https://nammco.no/topics/abundance_estimates_reports/
- NAMMCO - North Atlantic Marine Mammal Commission (2019). Report of the NAMMCO Scientific Committee Working Group on Harbour Porpoise, 19- 22 March, Copenhagen, Denmark. Available at https://nammco.no/topics/hpwwg_reports/
- NAMMCO - North Atlantic Marine Mammal Commission (2019). Report of the Ad hoc Working Group on Narwhal in East Greenland. September 2019, Copenhagen, Denmark. Available at <https://nammco.no/topics/sc-wg-reports/>
- NAMMCO-North Atlantic Marine Mammal Commission (2019). Report of the 26th meeting of the Scientific Committee, October 29–November 1, Tórshavn, Faroe Islands. Available at <https://nammco.no/topics/scientific-committee-reports/>
- NAMMCO-North Atlantic Marine Mammal Commission (2018). Report of the Scientific Committee 25th Meeting, 13–16 November, Polarlys, Norway. Available at <https://nammco.no/topics/scientific-committee-reports/>

Popular Science Publications

- Wickson, F.** (2016) “Should genetically modified organisms be part of our conservation efforts?” *The Conversation* https://theconversation.com/should-genetically-modified-organisms-be-part-of-our-conservation-efforts-66508#comment_1129741 (published November 9th 2016)
- Gillund, F. and **Wickson, F.** (2016) “Slik bruker vi GMO på en ansvarlig måte” *Forskning.no* <http://forskning.no/meninger/kronikk/2016/05/slik-bruker-vi-gmo-pa-ansvarlig-vis> (published 27.05.16)
- Wickson, F.** (2016) “Cultivating the New Garden of Eden” *Program of the Article Biennial for Electronic and Unstable Art: “New Eden”* (i/o/lab – Senter for Framtidskunst: Gunnarshaug Trykkeri)
- Wickson, F.**, Binimelis, R. and Herrero, A. (2015) “Why Europe will let member states opt out of GM crops” *The Conversation* <http://theconversation.com/why-europe-will-let-member-states-opt-out-of-gm-crops-50873> (published 30.11.15)
- Miller, G. & **Wickson, F.** (2015) “Big questions about risk assessment of nanomaterials” *The Conversation* <https://theconversation.com/big-questions-about-risk-assessment-of-nanomaterials-44835> (published 24.08.15)
- Wickson, F. (2014) “Watching the regulatory tail wag the scientific dog” *Research Europe* 390, p. 7.
- Forsberg, E.M., Throne-Holst, H., **Wickson, F.** (2013) “Verden’s minste problem” *Klassekampen* 16.03.13, pp.28-29
- Wickson, F.** (2012) “Why we need to forget about the environment” *The Conversation* <http://theconversation.edu.au/why-we-need-to-forget-about-the-environment-8818> (last accessed 03.09.12)
- Wickson, F.** (2012) “The Scientific Revolution” *IEEE Technology and Society Magazine* 31(2): 17-18.
- Heinemann, J. & **Wickson, F.** (2011) “Why would Australia want to grow genetically modified wheat?” *The Conversation* <http://theconversation.edu.au/why-would-australia-want-to-grow-genetically-modified-wheat-3755> (last accessed 14.08.12)

Blogs

- Wickson, F. (2020) “Can the Harvest of Marine Mammals be Part of a Sustainable Food System: Learning from Role Play” on NAMMCO Blog Series <https://nammco.no/topics/blog-can-the-harvest-of-marine-mammals-be-part-of-a-sustainable-food-system-learning-from-role-play/>
- Wickson, F. (2019) “Home from Homeward Bound and Antarctica” on NAMMCO Blog Series <https://nammco.no/topics/blog-home-from-homeward-bound-antarctica/>

Wickson, F. (2019) “What does it mean to be the Lead Facilitator for Homeward Bound?” on NAMMCO Blog Series <https://nammco.no/topics/blog-what-does-it-mean-to-be-the-lead-facilitator-for-homeward-bound/>

Wickson, F. (2019) “Getting to Know a New Group” on NAMMCO Blog Series <https://nammco.no/topics/blog-getting-to-know-a-new-group/>

EDITORIAL BOARDS OF INTERNATIONAL JOURNALS

Previous: *Life Sciences, Society and Policy; Journal of Responsible Innovation; International Journal of Deliberative Mechanisms in Science; NanoEthics*

Current:

In 2018 I was appointed as Expert Advisor to the Editorial board of *Nature Nanotechnology*.

In 2019 I became the Editor of the *NAMMCO Scientific Publications Series*.

PEER REVIEWER

I have served as a peer reviewer for various academic outlets. This includes:

Academic Journals: *Sustainability; Environmental Conservation; Environmental Values; Science and Engineering Ethics; Encyclopedia of Environmental Management; Nature Biotechnology; New Biotechnology; International Journal of Nanotechnology; Journal of Cleaner Production; International Journal of Emerging Technologies and Society; Nordic Journal of Science and Technology Studies; NanoEthics;*

Book Publishers: Springer; Routledge

Funding Bodies: European Research Council (ERC); U.S. National Science Foundation (NSF); Research Council of Norway (RCN); The Netherlands Organisation for Scientific Research; University of Louvain.

SELECTED TEACHING ENGAGEMENTS

(Full Description Available in Teaching Portfolio)

2019: Homeward Bound - Global Leadership Initiative for Women in STEMM. Lecture on “Environmental Ethics” and interactive roleplay workshop on “Science Meets Ethics and Politics”.

2018: UiT Arctic University of Norway Norwegian College of Fisheries Science: PhD Course on Philosophy and Ethics of Science. Lecture on “Environmental Ethics”.

2016: UiT Arctic University of Norway Masters Course : and Leadership. Lecture on “Responsible Research and Innovation”.

2016: UiT Arctic University of Norway PhD Course: Arctic Stories and Science. Lecture on “Science and Society: What is the role of science and the scientist?”

2013 & 2011: UiT Arctic University of Norway Graduate Course: Nanomedicine and Nanotechnology. Lectures on “Safety, Ethics and Governance” and “Creation, Representation and Communication”.

2013 & 2011: International Graduate Course: NanoSafety Autumn School: Understanding Human Health Effects and Environmental Impacts of Engineered Nanomaterials. Lecture on “Ethical issues”.

2013: International Graduate Course: Plant genome modification and the regulatory framework for GM plants in Europe (European COST Action). Lecture on “Environmental Protection Goals & Ethics”.

2012: European Commission Advanced Course for Professionals: Uncertainty and Quality in Science for Policy. Lectures on “Ambiguity in Science for Policy” and “Integrative Research & its Challenges”.

2010-2013: International Course for Professionals: Holistic Foundations for Assessment and Regulation of Genetic Engineering and Genetically Modified Organisms. Lectures on “Uncertainty”, “Ethics” and “Public participation”; Course coordination in 2013.

2008-2009: University of Bergen Graduate Course: NANO: Science, Technology and Ethics. Course coordination.

2008: European Commission Advanced Course for Professionals: Knowledge Assessment Methods. Lectures on “Uncertainty Assessment” and “Pedigrees of Knowledge”.

2002-2006: Tutor for University of Wollongong Undergraduate Courses: “Knowledge, Values and the World” (Philosophy Department); “Environment in Crisis” (Science, Technology and Society Department); “The Environmental Context” (Science, Technology and Society Department); “Professional Engineers and

the Management of Technology” (Engineering Department); “Molecules, Cells and Organisms” (Biology Department); “Australian Studies: culture and identity” (History Department).

SUPERVISION OF POSTGRADUATES & EARLY CAREER SCHOLARS

Ongoing PhD Students:

Flor Rivera Lopez (enrolled at UiT The Arctic University of Norway)

Thesis Title: “Conserving the Biodiversity of Maize in Mexico: Understanding a complex problem and developing participatory solutions”

Maya Marshak (enrolled at University of Cape Town, South Africa)

Thesis Title: “Mapping Maize Seed Systems in South Africa: Space, Sight and Sound”

Completed PhD Students:

Gulliver Conroy (University of South Australia, Australia) - Graduated 2019

Thesis Title: “Simulated Uncertainty: The Science and Sociology of Computer Modeling for Policy Relevant Knowledge in Environmental Risk Assessment”

Completed Poctdoctoral Fellows:

Sarah Agapito-Tenfen (BiodiverSEEDy project); Amaranta Herrero (Agri/Cultures Project); Rosa Binimelis (Agri/Cultures Project)

Interns & Researchers at Masters level:

Lilian van Hove (REDIG project); Solveig Enoksen (NAMMCO); Sam Smith (NAMMCO); Sabine Sig Hansen (NAMMCO); Bartel Kamban (NAMMCO), Mana Tugend (NAMMCO).

SELECTED INVITED KEYNOTE PRESENTATIONS

International Conferences & Symposiums

- * *Danish Marine Mammal Society Symposium* (2020 Copenhagen) Keynote plenary on “The historic development and the current challenges facing management of marine mammals in the new millenium”
- * *Biennial conference of the International Society for the History, Philosophy and Social Studies of Biology (ISHPSSB)* (2019 Oslo) Keynote plenary on “Lessons Learned from Waterfleas, Whales and Bees: A journey into environmental controversies in the search for sustainable food”
- * *European Food Safety Authority Conference: Science, Food, Society* (2018 Parma) Keynote speaker on “Responsible Research and Innovation: Are we there yet?”
- * *Academy of Transdisciplinary Learning and Advanced Studies* (2016 Suzhou) Keynote speaker on “Transdisciplinary collaboration & education for addressing ethical aspects of emerging technologies”
- * *Austrian Ministry of Science, Research and Economy Event on Responsible Research and Innovation* (2016 Vienna). Keynote on “Quality criteria and indicators for responsible research and innovation”
- * *14th International Public Communication of Science and Technology Conference* (2016 Istanbul). Keynote plenary on “Ethical issues in science and environmental communication”
- * *Making Science Public end of award conference* (2016 Nottingham). Plenary discussant on “How do we understand ‘the public’ in attempts to make science public?”
- * *Circling the Square: Universities, media, citizens and politics conference* (2015 Nottingham). Keynote panel presentation on “Science, Uncertainty and Advocacy”
- * *SIS-RRI International Conference: Science, Innovation and Society: Achieving Responsible Research and Innovation (RRI)* (2014, Rome). Keynote presentation on “The past, present and future of RRI”
- * *Society of Environmental Toxicology and Chemistry Conference* (2013 Glasgow). “Responsible Innovation” Stream, Keynote presentation on “Reflecting on Ethics in an Ecotoxicology Laboratory”
- * *BiCoDa Conference on The States’ Stakes in Science* (2013 Bielefeld). Presentation on “Standardising Irresponsibility in Science for Policy?”
- * *6th Meeting of the European Advisory Committees on Biosafety* (2012 Paris). Keynote presentation on “Ethical Questions Entangled in Environmental Risk Assessment”.
- * *Science of Team Science Conference* (2012 Chicago, USA). Expert Panel on “Reflections on Team Science and Society” Keynote Presentation on “Integrated Team Science for Responsible Technoscience”
- * *Science in Society: Crossroads and Challenges Symposium* (2012 Bergen). Presentation “Everywhere but here. The start of a circle. Talking with those who aren’t speaking”
- * *The road ahead for ELSA in Norway: Issues of quality, influence and network cooperation* (2012 Oslo) Presentation “Does ELSA have an identity crisis”.
- * *NanoMex 2010 International and Interdisciplinary Meeting on Nanoscience and Nanotechnology* (2010 Cuernavaca). Presentation “From Assessing Environmental Risk to Negotiating Ecological Uncertainty”
- * *Third International Conference on Advanced Nanomaterials* (2010 Agadir). Presentation “From Assessing Environmental Risk to Negotiating Ecological Uncertainty”

- * *Asia Pacific Science, Technology and Society Network Conference* (2009 Brisbane). Keynote Address for Panel on “Responsibility in mediating debates on emerging technologies”.

Invited Attendance at International Expert Workshops

- * *Workshop on Arctic User Knowledge* (2021 Online). Presentation on “NAMMCO’s experience with involving local and user knowledge in international environmental advisory work”.
- * *International Symposium: The Politics of Uncertainty – Practical Challenges for Transformative Action* (2019 Brighton). Presentation on “Ambiguity as a form of uncertainty in environmental governance”
- * *The National Academies of Sciences, Engineering and Medicine meeting on Future Biotechnology Products and Opportunities to Enhance Capabilities of the Biotechnology Regulatory System* (2016 San Francisco). Presentation on Emerging biotechnologies, challenges and regulatory responses.
- * *Making Nano “Safer by Design”* (2016 Vienna). Presentation on Interdisciplinary approaches to risk and responsibility-
- * *Nanosafety Workshop* (2015 Adelaide). Presentation on “Balancing the yin yang of nanosafety research in the quest for standardisation”.
- * *BIONÆR Program Board of the Norwegian Research Council* (2014 Oslo). Keynote address on “Cross-disciplinarity for Responsible Innovation”
- * *EFSA Scientific Network for Risk Assessment of GMOs* (2013 Parma) Presentation on “Environmental Protection goals: Philosophy, policy and publics”
- * *Risk Assessment of Nanomaterials* (2012 Adelaide). Presentation on “Risk Assessment of Manufactured Nanomaterials: Social and Ethical Aspects”
- * *Northern Scholars Scheme Public Lecture & Reception* (2011 Edinburgh). Presentation “Realising your Ecological Self: The deep ecology of Norwegian philosopher Arne Næss”
- * *Modern Biotechnology & Nanotechnology* (2011 Trondheim, Norway). Presentation “Governance of Emerging Technologies”
- * *European Federation of National Academies of Sciences and Humanities (ALLEA) Horizon Scanning Workshop* (2010 Oslo). Presentation “Teaching Ethics to Nanoscience PhD Students”.
- * *Deliberating Converging Technologies: An international expert workshop on new technologies & public participation* (2010 Berlin) Presentation: “Public engagement coming of age”
- * *After Public Engagement? Towards a critical governance of emergent technologies* (2010 Barcelona). Presentation “Governing the Invisible: Nanotechnology”.
- * *The Role of ISO in the Governance of Nanotechnology* (2010 Maastricht). Presentation “Terminology, Measurement and Characterisation: Merely technical or are there ethical aspects?”

PRESENTATIONS AT INTERNATIONAL CONFERENCES

In addition to the selection of invited keynote presentations I have listed above, I have also given presentations at a wide range of international conferences and meetings in recent years. This has included those organized by the following societies: The American Society for the Advancement of Science (AAAS), Society for Social Studies of Science (4S), European Association for the Study of Science and Technology (EASST), Society for the Study of Nanoscience and Emerging Technologies (S.Net), Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC Care), Nordic Science and Technology Studies (Nordic STS).

ORGANISATION OF INTERNATIONAL CONFERENCES

Member of the conference committee for the Third & Fourth Annual Conference of the Society for the Study of Nanoscience and Society (S.Net) in Phoenix, Arizona 2011 & Twente, the Netherlands 2012.