Matthew Sample

Professor for Responsible Research and Innovation

Centre for Ethics and Law in the Life Sciences
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Primary Areas of Research

Philosophy of Science and Technology, Science and Technology Studies (STS), Bio-/Neuro-/Engineering Ethics, Feminist Epistemology

Education

2016 PhD in Philosophy, University of Washington | Dissertation: "Evaluating Neural Futures: Good Technoscience and the Challenge of Co-Production" - Supervisor: Dr. Alison Wylie

2013 MA in Philosophy, University of Washington

2011 MPhil in History, Philosophy, and Sociology of Science and Technology, University of Cambridge - Supervisor: Dr. Hasok Chang

2010 BA, BS in Philosophy and Biology, University of Arkansas

Academic Positions and Affiliations

2021-present Professor for Responsible Research and Innovation, Centre for Ethics and Law in the Life Sciences, Leibniz University Hannover

2020-2021 Senior Research Fellow, Program on Science, Technology, and Society, Kennedy School of Government, Harvard University

2016-2020 Postdoctoral Researcher, McGill University and Institut de recherches cliniques de Montréal, Pragmatic Health Ethics Research Unit | Ethical, Legal, and Social Aspects of Brain-Computer Interfaces

2014-2016 Predoctoral Fellow, Program on Science, Technology, and Society, Kennedy School of Government, Harvard University

Publications

* *indicates student co-author*

PEER-REVIEWED ARTICLES

under review "Critical Contextual Empiricism and the Politics of Knowledge."

under review "Three Challenges for the Cosmopolitan Governance of Science."

in press Matthew Sample, Sebastian Sattler, Wren Boehlen, and Eric Racine. "Brain-Computer Interfaces, Disability, and the Stigma of Refusal: A Factorial Vignette Study." *Public Understanding of Science*.

2022 "Science, Responsibility, and the Philosophical Imagination." *Synthese*, 200(2): 79.

Matthew Sample, Wren Boehlen, Sebastian Sattler, Stefanie Blain-Moraes, and Eric Racine. "Brain-Computer Interfaces, Inclusive Innovation, and the Promise of Restoration: A Mixed-Methods Study with Rehabilitation Professionals." *Engaging Science, Technology and Society*, 8(2).

Onur Aydin, Austin Passaro, Ritu Raman, Samantha Spellicy, Robert Weinberg, Roger Kamm, Matthew Sample, George Truskey, Jeremiah Zartman, Roy Dar, Sebastian Palacios, Jason Wang, Jesse Tordoff, Nuria Montserrat, Rashid Bashir, M. Taher A. Saif, and Ron Weiss. "Principles for the Design of Multicellular Engineered Living Systems." *APL Bioengineering*

2019 Matthew Sample, Sebastian Sattler, Eric Racine, Stefanie Blain-Moraes, and David Rodriguez-Arias. "Do Publics Share Experts' Concerns about Neural Technology? A Trinational Survey on the Ethics of Brain-Computer Interfaces." *Science, Technology, and Human Values.* DOI: 10.1177/0162243919879220

Matthew Sample, Marjorie Aunos, Stefanie Blain-Moraes, Christoph Bublitz, Jennifer A. Chandler, Tiago H. Falk, Orsolya Friedrich, Deanna Groetzinger, Ralf J. Jox, Johannes Koegel, Dennis McFarland, Valerie Neufield, David Rodriguez-Arias, Sebastian Sattler, Fernando Vidal, Gregor Wolbring, Andreas Wolkenstein, and Eric Racine. "Brain-Computer Interfaces and Personhood: Interdisciplinary Deliberations on Neural Technology." *Journal of Neural Engineering*, 16(6): 063001.

Eric Racine and Matthew Sample. "Do We Need Neuroethics?" *American Journal of Bioethics Neuroscience,* 10(3): 101-103.

Matthew Sample, Marion Boulicault*, Caley Allen, Rashid Bashir, Insoo Hyun, Megan Levis, Caroline Lowenthal, David Mertz, Nuria Montserrat, Megan Palmer, Krishanu Saha, and Jeremiah Zartman. "Multi-Cellular Engineered Living Systems: Building a Community around Responsible Research on Emergence." *Biofabrication.* DOI: 10.1088/1758-5090/ab268c

Wren Boehlen* and Matthew Sample. "Rehabilitation Culture and Its Impact on Technology: Unpacking Practical Conditions for Ultrabilitation." *Disability and Rehabilitation.* DOI: 10.1080/09638288.2018.1550531

2018 Michelle Pham, Sara Goering, Matthew Sample, Jane E. Huggins, and Eran Klein. "Asilomar Survey: Researcher Perspectives on Ethical Principles and Guidelines for BCI Research." *Brain-Computer Interface,* 5(4): 97-111.

Eric Racine and Matthew Sample. "Two Problematic Foundations of Neuroethics and Pragmatist Reconstructions." *Cambridge Quarterly of Healthcare Ethics*, 27(4): 566-577.

2017 "Silent Performances: Are "Repertoires" Really Post-Kuhnian?" *Studies in History and Philosophy of Science Part A.* 61(Feb): 51-56.

Sasha Burwell*, Matthew Sample, and Eric Racine. "Ethical Aspects of Brain Computer Interfaces: A Scoping Review." *BMC Medical Ethics*, 18(60): 1-11.

Laura Specker-Sullivan, Eran Klein, Tim Brown, Matthew Sample, Michelle Pham, Paul Tubig, Raney Folland, Anjali Truitt, and Sara Goering. "Keeping Disability in Mind: A Case Study in Implantable Brain–Computer Interface Research." *Science and Engineering Ethics* (2017): 1-26.

2015 "Stanford's Unconceived Alternatives from the Perspective of Epistemic Obligation." *Philosophy of Science*, 82(5): 856-866.

Eran Klein, Tim Brown, Matthew Sample, Anjali Truitt, and Sara Goering. "Engineering the Brain: Ethical issues and the Introduction of Neural Devices." *The Hastings Center Report*, 45(6): 26-35.

COMMENTARIES

2022 Matthew Sample and Irina Cheema*. "Prospects for a Cosmopolitan Right to Scientific Progress." *Nature Physics*.

2019 Eric Racine, Wren Boehlen*, and Matthew Sample. "Healthcare Uses of Artificial Intelligence: Challenges and Opportunities for Growth in Healthcare Organizations." *Healthcare Management Forum*, 32(5): 272-275.

2017 Eric Racine, Ariane Quintal*, and Matthew Sample. "Neuroessentialism in Discussions about the Impact of Closed-Loop Technologies on Agency and Identity." *American Journal of Bioethics: Neuroscience*, 8(2): 81-83.

2012 "Evolutionary, Not Revolutionary: Current Prospects for Diagnostic Neuroimaging." *American Journal of Bioethics: Neuroscience*, 3(04):46-48.

BOOK CHAPTERS

in press "Neuroethics and the Political Imagination: Modeling Public Engagement as Governance." Eds. Nettelbeck, Livanec, and Müller. *Science, Art and Neuroethics: Transdisciplinary Collaborations to Foster Public Engagement.* Bielefeld: Transcript.

2022 Michelle Pham, Matthew Sample, Ishan Dasgupta, Sara Goering, and Eran Klein. "Developing Ethical Guidelines for Implantable Neurotechnology: The Importance of Incorporating Stakeholder Input." Ed. Thakor. *Handbook of Neuroengineering.* London: Springer.

2021 Matthew Sample and Eric Racine. "Pragmatism and the Digital Society: On the Significance of AI and Neural Technologies." Eds. Wolkenstein and Friedrich. *Clinical Neurotechnology Meets Artificial Intelligence.* London: Springer.

2017 Eric Racine and Matthew Sample. "The Competing Identities of Neuroethics: Remarks on Theoretical and Methodological Assumptions and Their Practical Implications for the Future of Neuroethics." Eds. Johnson and Rommelfanger. *Routledge Handbook of Neuroethics.* Routledge.

2016 Jan-Christoph Heilinger, Oliver Müller, and Matthew Sample. "Changing Human Nature: The Ethical Challenge of Biotechnological Interventions on Humans." Eds. Schramme and Edwards. *Handbook of the Philosophy of Medicine.* Springer.

Recent Talks

◇ *indicates invited*

2022 "Science, Responsibility, and the Philosophical Imagination", Society for Philosophy of Science in Practice Ninth Biennial Meeting, Ghent, July 1-4.

"Rescuing Bioengineering Ethics from Bioengineering Ethicists", EMBL-IBEC Conference on Engineering Multicellular Systems, Barcelona, June 8-10.

"Reformulating the Global in Cosmopolitan Governance of Technoscience", European Forum for Studies of Policies for Research and Innovation, Utrecht, June 1-3

"Science and Cosmopolitanism: Entangled Ideals in an Unjust World", Institute of Philosophy, Department Colloquium, Leibniz University Hannover April 26

◇ "Beyond the Republic of Science: New Theoretical and Empirical Challenges", Neuroethics Research Group, University of Washington Center for Neurotechnology, February 2

2021 ◇ "Teaching Co-Production as Philosophy by Other Means", Pedagogy Roundtable, Science and Democracy Network, June 23-25.

◇ "Deciding the Human of Tomorrow? Epistemological and Ethical Considerations on Scientifically-Inflected Futures" Annual Bioethics Conference, Harvard Center for Bioethics, June 11-12.

"Three Philosophical Lessons on Dealing with Organoids, Clinical Trials in a Dish, MCELS, and Other Strange New Biological Objects" 3rd Annual Workshop on Multi-Cellular Engineered Living Systems, June 1-3.

2020 ◇ "Imagining Responsibility, Imagining Responsibly: Reflecting on Our Shared Understandings of Science" Harvard STS Circle, August 3.

"Longino's Liberal Epistemology and the Question of Philosophical Authority." Science and Democracy Network Annual Meeting, Harvard Program on Science, Technology, and Society, August 12-14.

with Rossio Motta-Ochoa, Annette Leibing, Eric Racine, and Stefanie Moraes. "Rethinking personhood and inclusive technologies: Biomusic as relational effect." 4S/EASST - Locating and Timing Matters: Significance and Agency of STS in Emerging Worlds, Prague, August 20.

Awards and Grants

2023-2025 Niedersächsischen Ministerium für Wissenschaft und Kultur - Cosmopolitanism in a Technoscientific World: Evaluating New Imaginaries of Science Governance | project budget - 314.000 EUR

2022-2026 EU HORIZON - PREFERABLE-II Work Package: Ethics of Telehealth Rehabiliation for Cancer Survivors. Work Package Co-lead: Prof. Dr. Nils Hoppe | project budget (shared consortium total) - 6.318.441 EUR

2020-2021 SSHRC Connection Grant - Bridging Science, Health, and Society: Problems of Knowledge or Politics? Co-applicants: Kelly Bronson and Eric Racine | project budget - 17.000 CAD

2019-2020 (collaborator) Healthy Brains, Health Lives Knowledge Mobilization Grant - Psychiatric Illness in Canadian Youth: Mobilizing Measurement to Improve Clinical Care.
Primary Investigators: Eran Tal and Skye Barbic.

2019 (co-applicant) with Kelly Bronson. University of Ottawa Campus Conference Grant - Working with Co-Production: STS Methods Workshop.

2017-2018 IRCM Foundation Angelo-Pizzagalli Postdoctoral Fellowship

2016 Postdoctoral Mobility Travel Grant, Technical University of Munich

2016 University of Washington Presidential Graduate Fellowship

Professional Activities

committees International Organizing Committee - 2nd and 3rd Annual Workshops on Multi-Cellular Engineered Living Systems; Special Advisor - iGEM (International Genetically Engineered Machine Competition)

journal referee *Philosophy of Science*, *BioSocieties*, *Neuron*, *Neuroethics*, *Social Epistemology*, *Social Science & Medicine*, *Disability and Rehabilitation*, *Bioethica Forum*, *AJOB Neuroscience*

grant review Canadian Institutes of Health Research, National Science Foundation

societies Science and Democracy Network, Society for Philosophy of Science in Practice,

editorial Managing Editor, STS&Crisis, issue 1: Pandemic - An Online Media Project Hosted by the Harvard Program on Science, Technology, and Society.

Recent Courses

Science and the State
Constituting the Human: Biofiction, Biolaw, and Democracy
Knowing Democracies: Introduction to Science and Technology Studies
Global Justice in a Technoscientific World
(Ir)Responsible Science and Engineering