

Bibliography of Anders Sandberg

(2016-03-04)

Peer reviewed publications

2016

Bostrom, N., Douglas, T. & Sandberg, A. (2016). [The Unilateralist's Curse: The case for a principle of conformity](#). *Social Epistemology*. DOI:10.1080/02691728.2015.1108373

2015

Sandberg, A. & Diéguez, A. (2015). [Una mirada al futuro de la tecnología y del ser humano. Entrevista con Anders Sandberg](#). *Contrastes: revista internacional de Filosofía*, Vol XX, No 2. P. 373-390

Earp, B. D., Sandberg, A., & Savulescu, J. (2015). [The medicalization of love](#). *Cambridge Quarterly of Healthcare Ethics*, Vol. 24, No. 3, 323–336.

Sandberg, A., Bradshaw-Martin, H., & Gérardin-Laverge, M. (2015). [La voiture autonome et ses implications morales](#). *Multitudes*, 58(1), 62-68.

Minerva, F., & Sandberg, A. (2015). [Cryopreservation of Embryos and Fetuses as a Future Option for Family Planning Purposes](#). *Journal of Evolution & Technology*, 25(1). Pp. 17-30.

Hirsch, D., Markström, I., Patterson, M. L., Sandberg, A., & Vejdemo-Johansson, M. (2015). More ties than we thought. *PeerJ Computer Science*, 1, e2. <http://arxiv.org/abs/1401.8242>

2014

Earp, B. D., Sandberg, A., Kahane, G., & Savulescu, J. (2014). [When is diminishment a form of enhancement? Rethinking the enhancement debate in biomedical ethics](#). *Frontiers in systems neuroscience*, 8:12, 1-8. 2014 DOI 10.3389/fnsys.2014.00012

Earp, B. D., Sandberg, A., & Savulescu, J. (2014). [Brave new love: the threat of high-tech "conversion" therapy and the bio-oppression of sexual minorities](#). *AJOB neuroscience*, 5(1), pp. 4-12.

Sandberg, A. (2014). [Ethics of brain emulations](#). *Journal of Experimental & Theoretical Artificial Intelligence*, 26(3), 439-457.

2013

Armstrong, S., & Sandberg, A. (2013). Eternity in six hours: Intergalactic spreading of intelligent life and sharpening the Fermi paradox. *Acta Astronautica*, 89, 1-13.

Eckersley, P., & Sandberg, A. (2013). Is Brain Emulation Dangerous?. *Journal of Artificial General Intelligence*, 4(3), 170-194.

Earp, B. D., Wudarczyk, O. A., Sandberg, A., & Savulescu, J. (2013). [If I could just stop loving you: Anti-love biotechnology and the ethics of a chemical breakup](#). *The American Journal of Bioethics*, 13(11), pp. 3-17.

Sandberg, A. (2013). [Enhancement Policy and the Value of Information](#). *The American Journal of Bioethics*, 13(7), 34-35. Open peer commentary on "Prohibition or Coffee Shops: Regulation of Amphetamine and Methylphenidate for Enhancement Use by Healthy Adults" by Veljko Dubljević.

2012

Armstrong, S., Sandberg, A., & Bostrom, N. (2012). [Thinking inside the box: Controlling and using an oracle AI](#). *Minds and Machines*, 22(4), 299-324. DOI: 10.1007/s11023-012-9282-2

Dresler, M., Sandberg, A., Ohla, K., Bublitz, C., Trenado, C., Mroczo-Wąsowicz, A., Kühn, S. & Repantis, D. (2013). [Non-pharmacological cognitive enhancement](#). *Neuropharmacology*, 64, 529-543.

Earp, B. D., Sandberg, A., & Savulescu, J. (2012). Natural selection, childrearing, and the ethics of marriage (and divorce): Building a case for the neuroenhancement of human relationships. *Philosophy & Technology*, 25(4), 561-587. , DOI: 10.1007/s13347-012-0081-8

Liao, S. M., Sandberg, A., & Roache, R. (2012). [Human engineering and climate change](#). *Ethics, Policy & Environment*, 15(2), 206-221.

2010

Ćirković, M. M., Sandberg, A., & Bostrom, N. (2010). [Anthropic shadow: Observation selection effects and human extinction risks](#). *Risk analysis*, 30(10), pp. 1495-1506.

Ord, T., Hillerbrand, R., & Sandberg, A. (2010). [Probing the improbable: methodological challenges for risks with low probabilities and high stakes](#). *Journal of Risk Research*, 13(2), pp. 191-205.
arXiv:0810.5515v1 [physics.soc-ph]

2009

Bostrom, N., & Sandberg, A. (2009). [Cognitive enhancement: methods, ethics, regulatory challenges](#). *Science and Engineering Ethics*, 15(3), pp. 311-341.

2008

Ravelingien, A., & Sandberg, A. (2008). [Sleep better than medicine? Ethical issues related to "wake enhancement"](#). *Journal of medical ethics*, 34(9), e9-e9.

Liao, S. M., & Sandberg, A. (2008). [The normativity of memory modification](#). *Neuroethics*, 1(2), 85-99.

Savulescu, J., & Sandberg, A. (2008). [Neuroenhancement of love and marriage: the chemicals between us](#). *Neuroethics*, 1(1), 31-44.

-2007

Chakraborty, S., Sandberg, A., & Greenfield, S. A. (2007). Differential dynamics of transient neuronal assemblies in visual compared to auditory cortex. *Experimental brain research*, 182(4), 491-498.

Sandberg, A., & Bostrom, N. (2006). [Converging cognitive enhancements](#). *Annals of the New York Academy of Sciences*, 1093(1), 201-227. (Special issue, [Progress in Convergence: Technologies for Human Wellbeing](#) Bainbridge W.S. and Roco M.C. eds.).

de Magalhaes, J. P., & Sandberg, A. (2005). Cognitive aging as an extension of brain development: A model linking learning, brain plasticity, and neurodegeneration. *Mechanisms of ageing and development*, 126(10), 1026-1033.

Sandberg, A., & Fransén, E. (2005). An autocatalytic model of STDP timing from slow calcium-dependent signals. *Neurocomputing*, 65, 603-608.

Sandberg, A., Tegnér, J., & Lansner, A. (2003). [A Working Memory Model Based on Fast Learning](#). *Network: Computation in Neural Systems*, 14(4), 789-802.

Lansner, A., Fransén, E., & Sandberg, A. (2003). [Cell assembly dynamics in detailed and abstract attractor models of cortical associative memory](#). *Theory in Biosciences*, 122(1), 19-36.

Sandberg, A., Lansner, A., Petersson, K. M., & Ekeberg, Ö. (2002). [A Bayesian attractor network with incremental learning](#). *Network: Computation in neural systems*, 13(2), 179-194.

Sandberg, A., & Lansner, A. (2002). [Synaptic depression as an intrinsic driver of reinstatement dynamics in an attractor network](#). *Neurocomputing*, 44, 615-622.

Sandberg, A., Lansner, A., & Petersson, K. M. (2001). [Selective enhancement of recall through plasticity modulation in an autoassociative memory](#). *Neurocomputing*, 38, 867-873.

Sandberg, A., Lansner, A., Petersson, K. M., & Ekeberg, Ö. (2000). [A palimpsest memory based on an incremental Bayesian learning rule](#). *Neurocomputing*, 32, 987-994.

Sandberg, A. (1999). [The physics of information processing superobjects: daily life among the Jupiter brains](#). *Journal of Evolution and Technology*, 5(1), 1-34.

Book

Sandberg, A., Sanchez, A., & Ingdahl, W. (2002). *"Som egenmäktiga gudar": den svenska debatten om gen-och bioteknik på 1970-och 1980-talen*. Timbro. ["As Arbitrary Gods: The Swedish Debate on Genetics and Biotechnology in the 1970's and 80's"]

Book Chapters

2015

Sandberg, A., (2015). Ethics of brain emulations. In [Risks of Artificial Intelligence](#), edited by Vincent Müller. Chapman and Hall/CRC, 2015.

Armstrong, S., Sandberg, A., & Ó hÉigeartaigh, S. (2015). Outrunning the Law: Extraterrestrial Liberty and Universal Colonisation. In *The Meaning of Liberty Beyond Earth* (pp. 165-186). Springer International Publishing.

2014

Sandberg, A., (2014). [Transhumanism and the Meaning of Life](#). In *Transhumanism and Religion: Moving into an Unknown Future*, eds. Tracy Trothen and Calvin Mercer, Praeger.

Sandberg, A., (2014). [Smarter policymaking through improved collective cognition?](#) In *Anticipating 2025: A guide to the radical scenarios that lie ahead, whether or not we're ready for them*. Ed. David W. Wood. London Futurists.

Sandberg, A. (2014). Being Nice to Software Animals and Babies. In *Intelligence Unbound: The Future of Uploaded and Machine Minds*, eds. Russell Blackford and Damien Broderick (pp. 279-297). Wiley-Blackwell.

2013

Liao, M., Sandberg, A., Roache, R. (2013). Human engineering and climate change. In *Designer Biology: The Ethics of Intensively Engineering Biological and Ecological Systems*, eds. Ronald L. Sandler, John Basl, Lexington Books (pp. 105-124).

Sandberg, A. (2013). Feasibility of whole brain emulation. In Müller, Vincent C. (ed.), *Philosophy and Theory of Artificial Intelligence*, (SAPERRE, vol 5.), Berlin: Springer, pp. 251-264.

Sandberg, A. (2001). Morphological freedom—Why we not just want it, but need it. In *The transhumanist reader: Classical and contemporary essays on the science, technology, and philosophy of the human future*, Max More and Natasha Vita-More, eds. Wiley (2013) (pp. 56-64). Originally talk held at the TransVision 2001 conference, Berlin, June 22-24 2001.

Sandberg, A. (2001). Models of Technological Singularity. In *The transhumanist reader: Classical and contemporary essays on the science, technology, and philosophy of the human future*, Max More and Natasha Vita-More, eds. Wiley (2013)

2012

Sandberg, A. (2012), Posthuman Possibilities. In *Is mankind old-fashioned? Discussions on the meaning of the technique*, Il Mulino.

Sandberg, A., Sinnott-Armstrong, W., & Savulescu, J. (2012). The Memory of Jurors: Enhancing Trial Performance. In *Memory and Law*, L. Nadel & W. Sinnott-Armstrong (Eds.), Oxford University Press.

2011

Sandberg, A., Sinnott-Armstrong, W., & Savulescu, J. (2011). Cognitive enhancement in courts. In *Oxford handbook of neuroethics*, eds. Judy Illes and Barbara J. Sahakian, Oxford: Oxford University Press (pp. 273-284).

Savulescu, J., Sandberg, A. and Kahane, G. (2011), 'Enhancement and Well-being', in J. Savulescu, R. ter Meulen and G. Kahane (Eds.) *Enhancing Human Capacities*, Oxford: Wiley-Blackwell pp. 3-18

Savulescu, J., Sandberg, A. and Kahane, G. (2011), 'Reasons to Feel, Reasons to Take Pills', in J. Savulescu, R. ter Meulen and G. Kahane (Eds.) *Enhancing Human Capacities*, Oxford: Wiley-Blackwell pp. 166-178

Sandberg, A. Cognition Enhancement--Upgrading the Brain, in J. Savulescu, R. ter Meulen and G. Kahane (Eds.) *Enhancing Human Capacities*, Oxford: Wiley-Blackwell, pp. 71-91

2010

Bostrom, N. & Sandberg, A. (2010). Die Weisheit der Natur: Eine Evolutionäre Heuristik für Enhancement am Menschen. In *Der neue Mensch? Enhancement und Genetik*, ed Nikolaus Knoepffler, Julian Savulescu, Angewandte Ethik 11, München, Verlag Karl Alber. Pp 83-126.

2009

Hillerbrand, R. & Sandberg, A. (2009) Rorschach, Ozymandias, and Dr. Manhattan. Can good, but uncertain ends justify any means? In *The Philosophy of Supervillains*, ed Ben Dyer, Open Court.

Sandberg, A. & Bostrom, N. (2009). Brain-boosters. In *Tomorrow's People: The Challenges of Technologies for Life-Extension and Enhancement*, ed. Peter Healey, Earthscan.

Bostrom, N., & Sandberg, A. (2009). The wisdom of nature: an evolutionary heuristic for human enhancement. In *Human enhancement*, eds. Julian Savulescu and Nick Bostrom. Oxford, Oxford University Press, pp. 375-416.

-2007

Sandberg, A. (2007). Biotechnology and the promise of tailor-made medicine, in *Unlocking Ideas: Essays from the Amigo Society*, ed. Francesca Ficai, ISBN 0954766393, London, Stockholm Network, pp. 61-67

Sandberg, A. (2006). Den forstaerkede hjerne, in Gert Balling & Kasper Lippert-Rasmussen eds., *Det Menneskelige Eksperiment*. Museum Tusulanum Forlag, Denmark. pp. 75-114

Sandberg, A. (2002). Kong Markatta II - en transhumanists erkendelser. In *Homo sapiens 2.0 - Når teknologien kryber ind under huden*, ed. Gert Balling, ISBN 87-12-03890-3, Gads Forlag.

Sandberg, A. (2001). The Vastening of David Zindell. In *Earth Is but a Star: Excursions Through Science Fiction to the Far Future*, ed. Damien Broderick, Univ of Western Australia Press.

Other academic publications and reports

Sandberg, A. (2016). [Morphological freedom: what are the limits to transforming the body?](#) Talk given at the international colloquium "L'humain et ses prothèses: Savoirs et pratiques du corps transformé", Paris December 11-12 2015.

Sandberg, Anders. (2016) [Energetics of the brain and AI](#). Sapience Project technical report STR 2016-2. arXiv preprint arXiv:1602.04019 (2016).

Systemic risk of modelling working party (2015). [Systemic risk of modelling in insurance](#). White paper from industry Systemic risk of modelling working party.

Sandberg, A. (2014) [Monte Carlo model of brain emulation development](#). Future of Humanity Institute working paper 2014-1

Beckstead, N., Armstrong, S., & Sandberg, A. (2014) Biased error search in insurance modeling. In [Systemic Risk of Modelling](#), report from the FHI-Amlin Systemic Risk of Risk Modelling Collaboration. Oxford University. 2014

Sandberg, A. Beckstead, N., & Armstrong, S. (2014) Defining systemic risk, In [Systemic Risk of Modelling](#), report from the FHI-Amlin Systemic Risk of Risk Modelling Collaboration. Oxford University. 2014

Armstrong, S., Bradshaw, H., Beckstead, N., Sandberg, A. (2014). The autopilot problem. In [Systemic Risk of Modelling](#), report from the FHI-Amlin Systemic Risk of Risk Modelling Collaboration. Oxford University. 2014

- Sandberg, A., & Armstrong, S. (2012). Indefinite survival through backup copies. Future of Humanity Institute Technical Report, Future of Humanity Institute, University of Oxford, <http://www.fhi.ox.ac.uk/indefinite-survival-backup.pdf> (accessed 5 March 2013).
- Sandberg, A. & Bostrom, N. (2011) [Machine Intelligence Survey](#). FHI research report #2011-2
- Holmes, E. A., Sandberg, A., & Iyadurai, L. (2010). Erasing trauma memories: Is this what the science suggests or even what we want to do? [Letter to the editor]. *British Journal of Psychiatry*, 190, 81a.
- Sandberg, A. & Bostrom, N. (2008) [Whole Brain Emulation: A Roadmap](#), Technical Report #2008-3, Future of Humanity Institute, Oxford University.
- Sandberg, A., Matheny, J. G., & Ćirković, M. M. (2008). [How can we reduce the risk of human extinction](#). *Bulletin of the Atomic Scientists*, 9 September 2008.
- Sandberg, A., & Bostrom, N. (2008). [Global catastrophic risks survey](#). Technical Report #2008-1, Future of Humanity Institute, Oxford University
- Sandberg, A. (2007). Definitions of Enhancement, Review of Cognitive Enhancement Technologies, Review of Ethical Topics in Cognitive Enhancement, reports from ENHANCE Project..
- Sandberg, A. (2006) [Eudoxa Policy Study #9, Den Hänsynsfulla Taggen](#) ["The considerate tag"], Eudoxa AB 2006. On the impact of identification technology.
- Sandberg, A., Sanchez A. & Ingdahl, W. (2005) [Tekniken befriar kroppen](#) ["Technology frees the body: the future of medical technology, the patient and health care"], Health Consumer Powerhouse.
- Sandberg, A. (2004) *Computational Memory Models*. Lund University Cognitive Studies #116.
- Sandberg, A. (2004) [Eudoxa Policy Study #5: Autonomy, Loyalty and Trust in the World of Machines](#), Eudoxa AB.
- Sandberg, A. (2004) [Eudoxa Policy Study #3: Nanotechnology: Losing the Revolution](#), Eudoxa AB, www.eudoxa.se, Eudoxa AB.
- Sandberg, A. (2003) [Eudoxa Policy Study #2: On Idea Futures - Making Politicians Put Their Money Where Their Mouth Is](#), (tr. Lene Johansen) Eudoxa AB.
- Sandberg, A. & Söderberg, R. [Computer generation: visions and demands](#), Third international conference on Military Applications of Synthetic Environments and Virtual Reality, MASEVR'97, Stockholm 1997.

Unpublished

- Fabiano, J. & Sandberg, A. (2016) Modelling the spread of moral enhancers: social strategies sold over-the-counter, emergence haunting the moral enhancer's paradise and design-space moats. Submitted to *Cambridge Quarterly of Healthcare Ethics*.
- Sandberg, A. (2015). Language security and SETI messages. Submitted to *Acta Astronautica*.
- Sandberg, A. (2015). [What do cars think of trolley problems: ethics for autonomous cars](#). Proceedings of BAI2013 13-15 November 2013, Plzen, Czech Republic. Springer. Forthcoming.
- Sandberg, A. & Snyder-Beattie, A. (2014) *The Metamodel 1.0: modelling the systemic effects of catastrophe modelling model diversity*, report of the FHI-Amlin collaboration.

Armstrong, S., Weick, M., Sandberg, A., Snyder-Beattie, A. & Beckstead, N., (2014) *The underwriter and the models - solo dances or pas-de-deux? What Amlin's data can tell us about how underwriters use models*, report FHI-Amlin collaboration 2014.

Bostrom, N. & Sandberg, A. [The Future of Identity](#). Report to the UK government.

Popular Publications

September 2015: [Can software suffer? Death and pain in digital brains](#), *New Scientist*, 9 September 2015.

July 2015: Levinstein, B., Sandberg A. (2015) [Software engineers need their own Hippocratic Oath](#). *Quartz* July 27, 2015

December 2014: *The relationship between the neural plumbing and the agape*. Essay in catalogue for exhibition Love is Enough: William Morris & Andy Warhol at Modern Art Oxford.

10 June 2014: [Eugene the Turing test-beating teenbot reveals more about humans than computers](#). *The Conversation*.

29 May 2014: [The five biggest threats to human existence](#). *The Conversation*. Reprinted in numerous news media.

12 May 2014: [From human extinction to super intelligence, two futurists explain](#). *The Conversation*

5 March 2014: Roy, A. & Sandberg, A. [The curse of centenarians epitomise our fears about growing old](#). *The Conversation*.

2 February 2014: What would the Earth be like if it was the shape of a donut? *Io9*, <http://io9.com/what-would-the-earth-be-like-if-it-was-the-shape-of-a-d-1515700296>

3 December 2013: "What a Habitable Planet Twice the Size of Earth Would Be Like", *Io9* <http://io9.com/what-a-habitable-planet-twice-the-size-of-earth-would-b-1476308959>

3 December 2013: Comment article "Do Finnish men age faster when unemployed?" with Avi Roy in *The Conversation*. <https://theconversation.com/do-finnish-men-age-faster-when-unemployed-20571>

1 November 2013: Sandberg, A., Talent is unfair, and genes can't be used to change that, *The Conversation* <http://theconversation.com/talent-is-unfair-and-genes-cant-be-used-to-change-that-19742>

Sandberg, A. (2013) Rena tankar utan kött och känslor, *Axess* #5 2013. <http://www.axess.se/magasin/default.aspx?article=1811> (book review of Ray Kurzweil's "How to Create a Mind" 2013)

Sandberg, A. & Sacvulescu, J. (2012) The Big Idea: Love Machine: Engineering lifelong romance, *New Scientist* 14 May 2012 <http://www.newscientist.com/article/mg21428646.200-love-machine-engineering-lifelong-romance.html>

Fiction

Sandberg, A. (2014) The passenger. Short story in the anthology *After Tranquility: Tales From Orion's Arm vol 2*, Orion's Arm Project.

Sandberg, A. & Ingdahl, W. (2011) *Cities of the Edge*, Sourcebook for GURPS Transhuman Space, Steve Jackson Games 2011