

## Alexei Grinbaum – publications

### Books

1. French: « Les Robots et le mal » (Desclée de Brouwer, 2019)  
Short Russian version: «Машина-доносчица. Как избавиться искусственный интеллект от зла»  
(Транслит, 2017)
2. « Mécanique des étreintes : intrication quantique » (Encre Marine, 2014)

### Papers in philosophy and foundations of physics:

1. “Anomalous non-classicality via correlative and entropic Bell inequalities” (with Sabiha Durucan).  
arxiv:2007.03450.
2. “Channel capacity enhancement with an indefinite causal order” (with Nicolas Loizeau), *Phys Rev A* 101, 012340, 2020. arxiv:1906.08505.
3. “Philosophical Foundations of Effective Field Theories” (with Sébastien Rivat), *European Journal of Physics A*, 2020. DOI 10.1140/epja/s10050-020-00089-w
4. “The Effectiveness of Mathematics in Physics of the Unknown,” *Synthese*, 196, 973-989, 2019. philsci/12950
5. “Narratives of Quantum Theory in the Age of Quantum Technologies,” *Ethics and Information Technology*, 19, 295–306, 2017. arxiv:1702.03001.
6. “How device-independent approaches change the meaning of Physics”, *Studies in the History and Philosophy of Modern Physics*, 58, 22-30, 2017. arXiv:1512.01035
7. “Quantum correlations: Challenging the Tsirelson bound”, in: *Quantum Interaction*, eds. H. Atmanspacher, Th. Filk and E. Pothos, Springer, 2016, pp. 3-11.
8. “Quantum theory as a critical regime of language dynamics”, *Foundations of Physics* 45, 1341-1350, 2015.
9. “Information-theoretic constraints on correlations with indefinite causal order”, *Phys. Rev. A* 92, 042124, 2015 (with I. Ibnohsein).
10. “Renormalized entropy of entanglement in relativistic field theory”, *Phys. Rev. D* 90, 065032, 2014 (with I. Ibnohsein and F. Costa).
11. “Quantum observer, Information Theory and Kolmogorov Complexity,” in *New Challenges to Philosophy of Science*, eds. H. Andersen, D. Dieks, W. J. Gonzalez, T. Uebel and G. Wheeler, Springer, 2013, pp. 59-72.
12. “Quantum Observer and Kolmogorov Complexity”, in A. Wüthrich and T. Sauer, eds., *New Vistas on Old Problems: Recent Approaches to the Foundations of Quantum Mechanics*, Edition Open Access, Max Planck Research Library for the History and Development of Knowledge Proceedings vol. 3, 2013, pp. 13-34.
13. “Twin quantum Cheshire photons” (with I. Ibnohsein), arXiv:1202.4894.
14. “Quantum observer and Kolmogorov complexity: a model that can be tested”, 2011. Older version: “A Mathematical Criterion of ‘Element of Reality’”, arXiv:1007.2756.
15. “Which fine-tuning arguments are fine?” *Foundations of physics*, 42, 2012, pp. 615-631, arXiv:0903.4055.
16. “On Epistemological Modesty”, *Philosophica*, 83, 2010, pp. 139-150.
17. “On the eve of the LHC: conceptual questions in high-energy physics”, CEA report, arXiv:0806.4268, PhilSci/4088.
18. “Reconstructing instead of interpreting quantum theory”, *Philosophy of Science*, 74, 2007, pp. 761–774. Also quant-ph/0509104.
19. “Reconstruction of quantum theory,” *British Journal for the Philosophy of Science*, 58, 2007, pp. 387–408.
20. “Information-theoretic principle entails orthomodularity of a lattice,” *Foundations of Physics Letters* 18 (6), 2005, pp. 563–572.

21. "Elements of information-theoretic derivation of the formalism of quantum theory", *International Journal of Quantum Information* 1(3), 2003, pp. 289–300.
22. "Information-theoretic derivation of the formalism of quantum theory", in: A. Khrennikov (ed.), *Proceedings of International Conference "Quantum theory: Reconsideration of Foundations–2"*, Växjö University Press, Växjö, Sweden, 2004, pp. 205-217.
23. "O filosofii fiziki" (*On the philosophy of physics*), *Zvezda*, 10, 2003, pp. 217-224 (in Russian).

#### Papers in ethics and philosophy of science:

24. "On the scientist's moral luck and wholeheartedness", *Journal of Responsible Innovation*, 2020, DOI 10.1080/23299460.2020.1805266
25. "The Distribution of Ethical Labor in the Scientific Community" (with Vincenzo Politi), *Journal of Responsible Innovation*, 2020, DOI 10.1080/23299460.2020.1724357.
26. « Ethique des nouvelles technologies : de la formation des ingénieurs à la responsabilité des chercheurs », in : *La Recherche et l'enseignement en éthique : un état des lieux*, sous la dir. d'E. Rude-Antoine et M. Piévic, Paris : L'Harmattan, 2020, pp. 33-44.
27. "Ethics in the Framework of Responsible Research and Innovation", *Technologos*, 2, 21-30, 2019.
28. « Quelques questions éthiques des nanotechnologies », in: *Traité de bioéthique. Tome 4 : Quelques territoires nouveaux de bioéthique*. Paris : Editions érès, 2018. P. 319-327.
29. "Chance as a value for artificial intelligence", *Journal of Responsible Innovation*, 5, 353-360, 2018.
30. « Contre la transparence : La Valeur du hasard pour une machine apprenante », *Revue française d'éthique appliquée*, 5, 47-53, 2018.
31. "Ethics in Robotics Research," *IEEE Robotics and Automation Magazine* 24, 139-145, 2017 (with R. Chatila, L. Devillers, J.-G. Ganascia, C. Tessier and M. Dauchet).
32. « Responsabilité des êtres calculants », *Revue française d'éthique appliquée* 3, 117-123, 2017.
33. « La responsabilité du chercheur est-elle seulement morale ? », *Responsabilité éthique face aux biotechnologies*. Swiss Philosophical Preprint Series, 126, 8-9, 2016.
34. « L'Irrévérence de Hans Jonas », *Esprit*, 426, 213-216, 2016.
35. "Uncanny valley explained by Girard's theory", *IEEE Robotics and Automation Magazine* 22(1), 152-150, 2015.
36. « Faibles doses : quelques questions philosophiques », *ERS*, 5, 2014, pp. 420-423.
37. "The Old-New Meaning of Researcher's Responsibility", *Etica & Politica / Ethics & Politics*, XV, 2013, 1, pp. 236-250.
38. « Le vivant à l'aune de la biologie de synthèse », *Biofutur*. 339 (janvier 2013), pp. 41-42.
39. « Biologie de synthèse : questions de société », *Les Annales des Mines : Réalités industrielles*, février 2013, pp. 91-95.
40. "What is 'responsible' about responsible innovation? Understanding the Ethical Issues", in *Responsible Innovation: Managing the Responsible Emergence of Science and Innovation in Society* (eds R. Owen, J. Bessant and M. Heintz), Wiley, 2013, pp. 119-142 (with C. Groves).
41. « Nom et image comme rites de la technoscience », *Visible*, 8, 2012, pp. 203-214.
42. "Nanotechnological Icons", *Nanoethics*, 5, 2011, pp. 195-202.
43. "The Nanotechnological Golem", *Nanoethics*, 4, 2010, pp. 191-198.
44. « Le défi social des nanotechnologies », *Agir*, septembre 2010, pp. 29-36.
45. « Au-delà des risques », in : *Risques émergents*, Paris : Economica, 2010, pp. 155-157. English version in: *Emerging Risks*, ed. C. A. Raimbault and A. Barre, Gower, 2012, pp. 209-212.
46. *Toolkit for ethical reflection and communication on nanoscience and nanotechnology*, Publication of the European project observatoryNano, 2010 (avec M. Pavlopoulos and V. Bontems).
47. « Les dimensions éthiques des nanotechnologies », in : *Nanotechnologies : Les guides de l'innovation*, Paris : Techniques de l'ingénieur, 2010, pp. 10-12 (avec M. Pavlopoulos)
48. « La catastrophe nanotechnologique », *Le Mensuel de l'Université*, 2009.

49. « Nanosciences : les enjeux du débat », *Le Débat*, janvier-février 2008, pp. 65-79 (with E. Klein and V. Bontems).
50. « Barrières cognitives dans la perception des nanotechnologies », *Annales des Mines : Réalités industrielles*, mai 2007, pp. 47–53.
51. “Cognitive Barriers in Perception of Nanotechnology,” *Journal of Law, Medicine and Ethics*, 34(4), 2006, 689–694.
52. “Living With Uncertainty: From the Precautionary Principle to the Methodology of Ongoing Normative Assessment”, *C. R. Geoscience* 337(4), 2005, 457–474 (with J.-P. Dupuy).
53. “Living With Uncertainty: Toward a Normative Assessment of Nanotechnology”, *Techné* joint issue with *Hyle* 8(2), 2004, pp. 4-25 (with J.-P. Dupuy). Also in: *Nanotechnology Challenges: Implications for Philosophy, Ethics and Society*, ed. J. Schummer and D. Baird, Singapore: World Scientific Publishing, 2006, pp. 287–314.
54. “Ethics Beyond Prudence: Toward a Normative Assessment of Nanotechnology”, Report of European Workshop on Social and Economic Issues of Nanotechnologies and Nanosciences, European Commission, Brussels, 14-15 April 2004, pp. 29–31 (with J.-P. Dupuy).
55. « La condition de l’homme moderne et les nanotechnologies », in: G. Nivat (ed.), *Les limites de l’humain. 39<sup>ème</sup> Rencontres Internationales de Genève, L’Age d’Homme*, Geneva, 2004, p. 141.

#### Other

56. « La Crypto quantique débarque », *Le Monde* (blog *Binaire*), 08 novembre 2016.
57. « La Responsabilité des informaticiens », *Le Monde* (blog *Binaire*), 01 septembre 2016.
58. « La Menace des chatbots », *Le Monde* (blog *Binaire*), 23 juin 2016.
59. “«Я емь» и «я кажусь»”, to be published in: *Indo-European Linguistics and Classical Philology— XX, Proceedings of the 20th Conference in Memory of Professor Joseph M. Tronsky*, St Petersburg: Nauka, 2016 (in Russian).
60. « L'étrangeté quantique à la source de l'espace-temps ? », *Ciel et Espace*, mars 2016.
61. “Homologic Assurance,” *Berfrois*, November 2015.
62. «Комплекс уверенности», *Translit* 17, 2015 (in Russian).
63. « La limite d’un étrange lien à distance », *La Recherche*, 455, p. 52-55, septembre 2011 (in French).
64. “Nanobuduschee” (Nanofuture), *Vedomosti*, December 2004 (in Russian).
65. “Versification in *Fin de Siècle* by Joseph Brodsky”, In: M. Gasparov (ed.), *Slavic Verse. Linguistics and Applied Poetics*. Moscow, 2001, pp. 86-100.
66. “Acoustics of Bells”, In: *Proceedings of student conferences in physics of the Department of Applied Mathematics of Institute of Fine Mechanics and Optics*, St. Petersburg, 1997.

#### Translation

67. Into French: Lee Smolin *Troubles with Physics*, Dunod, 2007.
68. Into Russian: H. Mitgang “Vladimir Nabokov,” *Zvezda*, 4, 1999.

#### Editorial work

Poetry and prose books by Joseph Brodsky