

# Publications

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## PEER-REVIEWED ARTICLES

1. Henri Poincaré's life, science, and life in science. *Historia Mathematica* 44(4), 2017, 423–435; doi 10.1016/j.hm.2017.05.001.
2. Poincaré on clocks in motion. *Studies in History and Philosophy of Modern Physics* 47(1), 2014, 131–141; doi 10.1016/j.shpsb.2014.01.003.
3. Hermann Minkowski's approach to physics. *Mathematische Semesterberichte* 55(2), 2008, 213–235; doi 10.1007/s00591-008-0044-4.
4. La vérité en géométrie : sur le rejet mathématique de la doctrine conventionnaliste. *Philosophia Scientiae* 2(3), 1997, 103–135.
5. Henri Poincaré's student notebooks, 1870–1878. *Philosophia Scientiae* 1(4), 1996, 1–17.

## EDITED BOOKS

1. With David Rowe and Tilman Sauer. *Beyond Einstein: Perspectives on Geometry, Gravitation, and Cosmology in the Twentieth Century*. New York: Birkhäuser, 492 p., 2018. ISBN 978-1-4939-7706-2; doi 10.1007/978-1-4939-7708-6.
2. *La Correspondance entre Henri Poincaré, les astronomes, et les géodésiens*. Basel: Birkhäuser, 391 p., 2016; doi 10.1007/978-3-7643-8293-3.
3. *La Correspondance entre Henri Poincaré et les physiciens, chimistes et ingénieurs*. Basel: Birkhäuser, 515 p., 2007. ISBN: 978-3-7643-7136-4; doi 10.1007/978-3-7643-8303-9.
4. With Jeremy Gray. *Henri Poincaré : Trois suppléments sur la découverte des fonctions fuchsienues*. Berlin: Akademie-Verlag, 1997. *Mathematical Reviews* 1998m:01018.

## BOOK CHAPTERS

1. Describing and understanding the world: from probability and statistics to heat propagation and field theory. Forthcoming in T. Archibald & D.E. Rowe, eds, *Bloomsbury Cultural History of Mathematics, Volume 5: A Cultural History of Mathematics in the Nineteenth Century*, London: Bloomsbury.
2. Poincaré-Week in Göttingen in light of the Hilbert-Poincaré correspondence of 1908–1909. In Maria Teresa Borgato, Erwin Neuenschwander & Irène Passeron, eds, *Mathematical Correspondences and Critical Editions*, Cham: Birkhäuser, 2019, 297–310; doi: 10.1007/978-3-319-73577-1\_15.

3. Figures of light in the early history of relativity (1905–1914). In D. E. Rowe, T. Sauer, and S. A. Walter (eds.), *Beyond Einstein: Perspectives on Geometry, Gravitation, and Cosmology in the Twentieth Century* (Einstein Studies 14). New York: Birkhäuser, 2018, 3–50; doi 10.1007/978-1-4939-7708-6\_1.
4. Ether and electrons in relativity (1900–1911). In J. Navarro, ed, *Ether and Modernity*. Oxford: Oxford University Press, 2018, 67–87; doi 10.1093/oso/9780198797258.003.0005.
5. The historical origins of spacetime. In A. Ashtekar and V. Petkov (eds.), *Springer Handbook of Spacetime*. Berlin: Springer, 2014, 27–38; doi 10.1007/978-3-642-41992-8.
6. Henri Poincaré, theoretical physics and relativity theory in Paris. In K.-H. Schlote and M. Schneider (eds.), *Mathematics Meets Physics*. Frankfurt am Main: Harri Deutsch, 2011, 213–239.
7. Moritz Schlick’s reading of Poincaré’s theory of relativity. In F. O. Engler and M. Iven (eds.), *Moritz Schlick: Ursprünge und Entwicklungen seines Denkens* (Schlickiana 5). Berlin: Parerga Verlag, 2010, 191–203.
8. L’hypothèse naturelle, ou quatre jours dans la vie de Gerhard Heinzmann. In P. E. Bour, M. Rebuschi and L. Rollet (eds.), *Construction: Festschrift for Gerhard Heinzmann*. London: College Publications, 2010, 129–135.
9. Minkowski’s modern world. In V. Petkov (ed.), *Minkowski Spacetime: A Hundred Years Later*. Berlin: Springer, 2010, 43–61; doi 10.1007/978-90-481-3475-5\_2.
10. Hypothesis and convention in Poincaré’s defense of Galilei spacetime. In M. Heidelberger et G. Schieman (eds.), *The Significance of the Hypothetical in the Natural Sciences*. Berlin: Walter de Gruyter, 2009, 193–219.
11. Henri Poincaré et l’espace-temps conventionnel. In I. Smadja (ed.), *Réalisme et théories physiques* (Cahiers de philosophie de l’Université de Cæn 45). Cæn: Presses universitaires de Cæn, 2008, 87–119.
12. Breaking in the 4-vectors: the four-dimensional movement in gravitation, 1905–1910. In Jürgen Renn and Matthias Schemmel (eds.), *The Genesis of General Relativity*, 4 vols. (Boston Studies in the Philosophy of Science 250), Volume 3, *Gravitation in the Twilight of Classical Physics: Between Mechanics, Field Theory, and Astronomy*. Berlin: Springer, 2007, 193–252.
13. Minkowski, mathematicians, and the mathematical theory of relativity. In Hubert Goenner, Jürgen Renn, Jim Ritter and Tilman Sauer (eds.), *The Expanding Worlds of General Relativity* (Einstein Studies 7). Boston: Birkhäuser, 1999, 45–86.
14. The non-Euclidean style of Minkowskian relativity. In Jeremy Gray (ed.), *The Symbolic Universe: Geometry and Physics, 1890–1930*. Oxford: Oxford University Press, 1999, 91–127. *Mathematical Reviews* 2001g:01032.

## ARTICLES IN CONGRESS PROCEEDINGS

1. The mathematization of cosmology from Kelvin to Einstein. *Boletim Sociedade Portuguesa de Matemática* N° 76.

2. Describing and understanding the world in the long nineteenth century: from probability and statistics to field theory. *Oberwolfach Reports* 41/2020, 2020, 52–53, doi 10.4171/OWR/2020/41.
3. Mathematical Milky Way models from Kelvin and Kapteyn to Poincaré, Jeans and Einstein. *Oberwolfach Reports* 12(4), 2015, 2081–2082.
4. Discipline and style in relativity theory, 1905–1915. *Oberwolfach Reports* 7(1), 2010.
5. It's only a model: spacetime geometry in the transition from Galilean to relativistic kinematics. *Oberwolfach Reports* 5(2), 2008.
6. Who's a conventionalist? Henri Poincaré's correspondence with physicists. *Oberwolfach Reports* 4(2), 2005.
7. La solution de Kaluza au paradoxe d'Ehrenfest. In Dominique Flament (ed.), *Dimension, dimensions (I)*. Paris: Éditions de la Maison des sciences de l'homme, 1999.
8. Truth in geometry : metrical conventions and Minkowskian relativity. In Dominique Flament (ed.), *Histoires de géométries : textes du séminaire de l'année 1996*, 61–76. Paris: Éditions de la Maison des sciences de l'homme, 1998.
9. The Sonar Ring: obstacle detection for a mobile robot. *Proceedings 1987 IEEE International Conference on Robotics and Automation*, Volume 3, IEEE Robotics and Automation Council (ed.), Washington: Computer Society Press, 1987, 1574–1579; doi 10.1109/ROBOT.1987.1087902.

#### BOOK REVIEWS

1. Claudia E. Graf-Grossmann, Marcel Grossmann: For the Love of Mathematics. *Isis* 111(1), 2020, 194–195.
2. Roberto Lalli, Building the General Relativity and Gravitation Community During the Cold War. *Centaurus* 61, 2020, 451–453; doi 10.1111/1600-0498.12230.
3. Revisiting the Foundations of Relativistic Physics. Edited by Abhay Ashtekar et al. *American Journal of Physics* 72(7), 2004, 974–975; doi 10.1119/1.1761068.
4. Beyond the Einstein Addition Law and the Gyroscopic Thomas Precession, by Abraham A. Ungar. *Foundations of Physics* 32(2), 2002, 327–330.
5. How Maxwell made his mark: Electrodynamics from Ampère to Einstein, by Olivier Darrigol. *Nature* 409, 2001-01-18, 283–284; doi 10.1038/35053149.
6. The Collected Papers of Albert Einstein, Vol. 6. Edited by Anne J. Kox et al. *Revue d'histoire des sciences* 52, 1999, 163–164.

#### NON-SPECIALIST PUBLICATIONS AND TRANSLATIONS

1. L'histoire des sciences pour les robots : les humanités numériques aux Archives Henri Poincaré. *La lettre de l'INSHS*, N° 29, mai 2014.
2. Hermann Minkowski and the scandal of spacetime. *ESI News (Vienna)* 3(1), 2008, 6–8.

3. On the dynamics of the electron, by Henri Poincaré (1906). Translated from the French by Scott A. Walter. In Jürgen Renn and Matthias Schemmel (eds.), *The Genesis of General Relativity, Volume 3, Gravitation in the Twilight of Classical Physics: Between Mechanics, Field Theory, and Astronomy*, 253–271. Berlin: Springer, 2007.
4. Poincaré, Henri. In Noretta Koertge (ed.), *New Dictionary of Scientific Biography*, Vol. 6, 121–125. New York: Scribner's Sons, 2007.
5. Poincaré, Henri. In John Merriman and Jay Winter (eds.), *Europe 1789–1914, Encyclopedia of the Age of Industry and Empire, Volume 4: 1805–1806*. New York: Scribner's Sons, 2006.
6. Henri Poincaré and the theory of relativity. In Jürgen Renn (ed.), *Albert Einstein, Chief Engineer of the Universe: 100 Authors for Einstein*, 162–165. Berlin: Wiley-VCH, 2005.
7. Henri Poincaré und die Relativitätstheorie. In Jürgen Renn (ed.), *Albert Einstein, Ingenieur des Universums: 100 Autoren für Einstein*, 162–165. Berlin: Wiley-VCH, 2005.
8. Éther. In Dominique Lecourt (ed.), *Dictionnaire d'histoire et philosophie des sciences*, 381–384. Paris: Presses universitaires de France, 1999.
9. Interview with René Girard. *Birth of Tragedy*, Power issue, May–July, 1985.

#### DOCUMENTARIES

1. *A la recherche de Henri Poincaré*. Web documentaire de 12 minutes produit par Vidéoscop, réalisé par Philippe Thomine en 2011.
2. With Gerhard Heinzmann. *Le monde est-il mathématique ?* Documentaire de 52 minutes produit par Vidéoscop, réalisé par Philippe Thomine en 2004. N° 4 de la série Sciences et philosophie. Les Amphis de France 5 : Philosophie.

#### MEDIA

1. Letter to the Editor. *Isis* 99(2), 2008, 374; doi 10.1086/588695.
2. *La Bibliographie d'Henri Poincaré*. Publication électronique de la bibliographie de Henri Poincaré (2002) : [henripoincarepapers.univ-nantes.fr/bibliohp/](http://henripoincarepapers.univ-nantes.fr/bibliohp/)
3. *La Correspondance d'Henri Poincaré*. Publication en ligne de la correspondance et des manuscrits divers d'Henri Poincaré, sous forme d'images numérisées, et de transcriptions annotées (2002) : [henripoincarepapers.univ-nantes.fr/correspHP/](http://henripoincarepapers.univ-nantes.fr/correspHP/)
4. *Henri Poincaré : Les cahiers de jeunesse 1870–1878*. Édition sur microfilm de dix-sept cahiers de jeunesse d'Henri Poincaré avec une notice de synthèse et une table des matières, 1993. Institutions depositaires : SPHERE (UMR 7596), Paris; Archives Henri Poincaré (UMR 7117), Nancy; American Institute of Physics Niels Bohr Library, College Park, Maryland.

#### THESIS

Hermann Minkowski et la mathématisation de la théorie de la relativité restreinte, 1905–1915. Université Denis Diderot (Paris 7), 1996.