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Publication List

Peer-Reviewed Research Articles & Conference Proceedings

- 1) **Kersting, M., Toellner, R., Blair, D., Burman, R. (2020)**, *Gravity and Warped Time - Clarifying Conceptual Confusions in General Relativity*, *Physics Education*, 55, 015023.
<https://doi.org/10.1088/1361-6552/AB56D7>
- 2) **Choudhary, R., Kraus, U., Kersting, M., Zahn, C., Zadnik, M., Meagher, R., Blair, D. (2019)**, *Einsteinian Physics in the Classroom: Integrating Physical and Digital Learning Resources in the Context of an International Research Collaboration*, *The Physics Educator*, 1(4) 1950016.
<https://doi.org/10.1142/S2661339519500161>
- 3) **Steier, R., Kersting, M. (2019)**, *Metaimagining and embodied conceptions of spacetime*, *Cognition & Instruction*, 37:2, 145-168.
<https://doi.org/10.1080/07370008.2019.1580711>
- 4) **Steier, R., Kersting, M., Silseth, K. (2019)**, *Imagining with improvised representations in CSCL environments*, *International Journal of Computer-Supported Collaborative Learning*, 14: 109.
<https://doi.org/10.1007/s11412-019-09295-1>
- 5) **Kersting, M. (2019)**, *Free fall in curved spacetime - how to visualise gravity in general relativity*, *Physics Education*, 54,035008, 593–623.
<https://dx.doi.org/10.1088/1361-6552/ab08f5>
- 6) **Kersting, M. (2019)**, *Navigating four dimensions – upper secondary students' understanding of movement in spacetime*, *Journal of Physics: Conference Series*, Volume 1287, Number 1.
<http://doi.org/10.1088/1742-6596/1287/1/012007>
- 7) **Kersting, M., Henriksen, E. K., Bøe, M. V., & Angell, C. (2018)**, *General relativity in upper secondary school: design and evaluation of an online learning environment using the model of educational reconstruction.*, *Physical Review Physics Education Research*, 14(1)), 010130-1-010130-18.
<http://doi.org/10.1103/PhysRevPhysEducRes.14.010130>

- 8) **Kersting, M., Steier, R. (2018)**, *Understanding curved spacetime – the role of the rubber sheet analogy in learning general relativity*, *Science & Education*, 27(7–8), 593–623.
<https://doi.org/10.1007/s11191-018-9997-4>
- 9) **Kersting, M. (in press)**, *How history and philosophy of science can inform teaching and learning of general relativity in upper secondary school*, *Proceedings of the Fifteenth Marcel Grossman Meeting on General Relativity*, World Scientific, Singapore.
- 10) **Kersting, M., Steier, R., Venville, G. (under review)**, *Exploring participant engagement during an astrophysics virtual reality experience at a science festival*.
- 11) **Kamphorst, F., Kersting, M. (under review)**, *Design-Based Research and the Model of Educational Reconstruction - A Combined Approach to Design Successful Science Instruction*.

Books & Book Chapters

- 1) **Kersting, M. (2020)**, *Visualizing Four Dimensions in Special and General Relativity*, *Handbook of the Mathematics of the Arts and Sciences*, Bharath Sriraman (Editor), Springer Nature, Cham.
https://doi.org/10.1007/978-3-319-70658-0_120-1
- 2) **Kersting, M. (in press)**, *Using the language of gravity to teach about space, time, and matter in general relativity*, *Teaching Einsteinian Physics in Schools*, Kersting, M., Blair, D. (Editors), Routledge (forthcoming).
- 3) **Kersting, M. (in press)**, *Standing on the shoulders of giants – how historical perspectives on gravity can inform modern physics education*, *Teaching Einsteinian Physics in Schools*, Kersting, M., Blair, D. (Editors), Routledge (forthcoming).
- 4) **Blair, D., Kersting, M. (in press)**, *The Difficult Birth of General Relativity and the Glorious Birth of Gravitational Wave Astronomy*, *Teaching Einsteinian Physics in Schools*, Kersting, M., Blair, D. (Editors), Routledge (forthcoming).
- 5) **Kersting, M., Blair, D. (in press)**, *Teaching Einsteinian Physics in Schools*, Routledge.

Outreach & Science Communication

- 1) **Kersting, M., Kube, J. (2019)**, *The first catalogue of cosmic collisions*, *Einstein Online Band 11*, 11-1001.
<https://www.einstein-online.info/en/spotlight/The-first-catalogue-of-cosmic-collisions/>
- 2) **Kersting, M.(2019)**, *Meet the Scientist*, *Wonk Magazine*.
<https://www.wonkmagazine.co.uk/magdalena-kersting>

- 3) **Kersting, M. (2018)**, *Navigating Four Dimensions*, Lateral Magazine.
<http://www.lateralmag.com/articles/issue-27/navigating-four-dimensions>
- 4) **Kersting, M. (2018)**, *General Relativity – Why high school students should learn about Einstein's most revolutionary idea*, Titan Magazine.
<https://titan.uio.no/naturvitenskap-utdanning-english/2018/general-relativity-why-high-school-students-should-learn-about-einsteins-most-revolutionary-idea>
- 5) **Kersting, M. (2018)**, *Stretching the imagination: How a rubber sheet challenges our knowledge of gravity*, Medium.
<https://medium.com/@magdalena.kersting/stretching-the-imagination-how-a-rubber-sheet-challenges-our-knowledge-of-gravity-7a2691055aae>
- 6) **Kersting, M. (2017)**, *Da geniet Einstein tok feil*, National Geographic.
<http://natgeobloggen.no/2017/04/30/da-geniet-einstein-tok-feil/>

Selection of Key Note & Invited Talks

- 02/2020 **Inaugural Einstein-First International Workshop: Teaching Einsteinian Physics in Schools**, *Perth, Australia*, Impact in Einsteinian Physics Education.
(Key Note Talk)
- 11/2019 **Örebro University**, *Örebro, Sweden*, Computer-supported collaborative learning & embodied conceptions of spacetime.
(Invited Talk)
- 11/2019 **Karlstad University**, *Karlstad, Sweden*, Embodied Cognition in Science Education - Examples from Relativity.
(Invited Talk)
- 11/2019 **Linköping University**, *Norrköping, Sweden*, Computer-supported collaborative learning & embodied conceptions of spacetime.
(Invited Talk)
- 7/2019 **Institute of Physics**, *London, UK*, Impact in Physics Education: the Transformational Power of Educational Research Collaborations.
(Invited Talk)
- 7/2019 **GR22-Amaldi13**, *Valencia, Spain*, Bringing general relativity to secondary schools: design and evaluation of a digital learning environment.
(Invited Talk)
- 2/2019 **WE-Heraeus Seminar**, *Bad Honnef, Germany*, Curved Spacetime: Investigating Students' Conceptual Understanding in General Relativity.
(Invited Talk)
- 12/2016 **Future Science Conference**, *Perth, Australia*, General Relativity: Making Einstein's Theory Teachable.
(Invited Talk)

■ Chaired Symposia

- 07/2019 **Teaching and Learning of Einsteinian Physics**, GIREP 2019, Budapest, Hungary, (Symposium).
- 07/2018 **International Perspectives on Einsteinian Physics at the Upper Secondary School Level**, GIREP-MPTL 2018, San Sebastian, Spain, (Symposium).
- 07/2017 **The Teaching and Learning of Einsteinian Physics in International Contexts**, GIREP-ICPE-EPEC 2017, Dublin, Ireland, (Symposium).

■ Selection of Conference Presentations

- 7/2019 **GIREP 2019**, Budapest, Hungary, Free fall in curved spacetime - how to visualize gravity in general relativity.
- 12/2018 **23rd Australian Institute of Physics Congress**, Perth, Australia, GR in upper secondary school: design and evaluation of an online learning environment.
- 7/2018 **BWS 2018**, London, UK, The Role of Imagination in the Language Games of the Science Classroom.
- 6/2018 **2nd Symposium on Embodied Interaction: "Gesture, Touch, and Embodied Meaning-Making"**, Odense, Denmark, Gravity, imagination and embodied conceptions of spacetime.
- 3/2018 **PESGB 2018**, Oxford, Great Britain, General Relativity in Upper Secondary School: How Philosophy of Science Can Inform Physics Education of the 21st century.
- 8/2017 **EARLI JURE**, Tampere, Finland, Educational Reconstruction of General Relativity Through a Collaborative Online Learning Environment.