

Magdalena Kersting

Curriculum Vitae

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Education

- 8/2018- present **Visiting Research Fellow**, *ARC Centre of Excellence OzGrav*, University of Western Australia, Australia.
- 9/2015- present **PhD in Physics Education**, University of Oslo, Norway.
General Relativity in Upper Secondary School - Research based development of a teaching resource and analysis of students' conceptual development
- 6/2015- **Diploma Public Relations Management (1.3)**, Freie Journalistenschule
5/2018 Berlin, Germany.
Thesis: Communication at the crossroads of science and education
- 1/2013- **Master of Science in Mathematics (1.1)**, University of Göttingen,
3/2015 Germany.
Major: Mathematical Physics, Operator Algebras
- 08/2014- **Master's Thesis Abroad**, *University of Oslo, Norway*, funded by a DAAD
3/2015 Promos Stipend.
- 01/2013- **Postgraduate Studies Abroad**, *University of Oslo, Norway*.
8/2013 Differential Geometry, Advanced Functional Analysis
- 10/2009- **Bachelor of Science in Mathematics (1.8)**, University of Göttingen,
8/2012 Germany.
Major: Mathematical Physics, Differential Geometry
- 9/2008- **Bachelor of Science in Physics (1.6, with Honors)**, University of Göttingen,
10/2011 Germany.
Major: Astrophysics, Dynamical Systems

Publications

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>

Kersting, M., Steier, R., *Understanding curved spacetime – the role of the rubber sheet analogy in learning general relativity*, Science & Education.
<https://doi.org/10.1007/s11191-018-9997-4>

Kersting, M. (2018), *General Relativity – Why high school students should learn about Einstein's most revolutionary idea.*, Titan.uio.no..
<https://titan.uio.no/node/2671>

Kersting, M. (2018), *Navigating four dimensions.*, Lateral Magazine.
<http://www.lateralmag.com/articles/issue-27/navigating-four-dimensions>

Conferences Attended

- 12/2018 **23rd Australian Institute of Physics Congress**, Perth, Australia, Oral Presentation: GR in upper secondary school: design and evaluation of an online learning environment.
- 12/2018 **STAWA Future Science Conference 2018**, Perth, Australia, Workshop Presentation: Modernising Physics Teaching.
- 11/2018 **Fogarty Foundation Postgraduate Research Forum 2018**, Perth, Australia, Ignite Presentation: Understanding Curved Spacetime.
- 7/2018 **BWS 2018**, London, UK, Oral Presentation: The Role of Imagination in the Language Games of the Science Classroom.
- 7/2018 **GIREP-MPTL 2018**, San Sebastian, Spain, Symposium Presentation: Navigating four dimensions – upper secondary students' understanding of movement in spacetime; Oral Presentation: How history and philosophy of science can inform teaching and learning of general relativity in upper secondary school.
- 7/2018 **15th Marcel Grossmann Meeting**, Rome, Italy, Oral Presentation: How History and Philosophy of Science Can Inform Teaching and Learning of General Relativity in Upper Secondary School.
- 6/2018 **2nd Symposium on Embodied Interaction: "Gesture, Touch, and Embodied Meaning-Making"**, Odense, Denmark, Oral Presentation: "Gravity, imagination and embodied conceptions of spacetime".
- 3/2018 **PESGB 2018**, Oxford, Great Britain, Poster Presentation: General Relativity in Upper Secondary School: How Philosophy of Science Can Inform Physics Education of the 21st century.
- 8/2017 **JURE**, Tampere, Finland, Poster Presentations: Educational Reconstruction of General Relativity Through a Collaborative Online Learning Environment.
- 8/2017 **ESERA**, Dublin, Ireland, Symposium Presentations: Gravity, Imagination, and Embodied Conceptions of Spacetime.

- 7/2017 **GIREP-ICPE-EPEC**, Dublin, Ireland, Oral Presentations: Teaching General Relativity in Upper Secondary Schools: an Educational Reconstruction; An International Research Collaboration in the Teaching and Learning of Einsteinian Physics.
- 6/2017 **Science on Stage**, Debrecen, Hungary, Fair and Poster Presentation: A Relatively Modern Physics Lesson.
- 12/2016 **Future Science Conference**, Perth, Australia, Oral Presentation: General Relativity: Making Einstein's Theory Teachable.
- 11/2016 **International Workshop on the Teaching and Learning of Einsteinian Physics in the Era of Gravitational Astronomy**, Gin Gin, Western Australia, Oral Presentation: Curved space and warped time: Students' understanding of gravity.
- 8/2016 **National Conference on Teaching of Physics**, Copenhagen, Denmark, Oral Presentation: ReleKvant - undervisningsopplegg om relativitetsteori og kvantefysikk.

Teaching Experience

- 8/2016-present **Undergraduate and Graduate Courses**, *Teaching Assistant*, Oslo, Norway.
 - o (Spring 2018) FYS4160 - General Relativity
 - o (Spring 2017) FYS4160 - General Relativity
 - o (Autumn 2016) FYS1120 - Electromagnetism
- 10/2017-present **Teacher Workshops**, *Workshop Leader*.
 - o (6/2018) Sandefjord Highschool
 - o (11/2017) University of Bergen
 - o (10/2017) Bro Aschehoug Publishing House
- 3/2014-4/2015 **Revision Courses**, *Course Reader*, Göttingen, Germany.
 - o (4/2015) Multimedia Revision Course in Calculus
 - o (3/2014) Revision Course in Calculus
- 10/2010-3/2014 **Undergraduate Courses**, *Teaching Assistant*, Göttingen, Germany.
 - o (Winter 2013/14) Calculus
 - o (Summer 2012) Complex Analysis
 - o (Winter 2011/12) Calculus
 - o (Summer 2011) Electrodynamics
 - o (Winter 2010/11) Calculus
- 10/2009-9/2013 **Highschool and Freshmen Courses**, *Course Reader and Teaching Assistant*, Göttingen, Germany.
 - o (9/2013) Mathematics for Agricultural Science and Forestry Students
 - o (10/2010) Physics for Agricultural Science and Forestry Students
 - o (9/2010) Mathematics for Physics and Mathematics Students
 - o (10/2009) Physics for Agricultural Science Students

Organizational Experience

- 2016–2017 **Events Officer for UiODoc**, *Interest Organisation for PhDs and PostDocs at the University of Oslo*, Norway.
- 2017 **Organizing Committee**, *Conference “EuroDoc: Open Science – Challenges and Opportunities for Early Career Researchers”*, Oslo, Norway.
- 2016 **Organizing Committee**, *Conference “International Workshop on the Teaching and Learning of Einsteinian Physics in the Era of Gravitational Astronomy”*, Gin Gin, Western Australia.
- 2016 **Joint Application**, *Program for Research and Innovation in the Educational Sector, Norwegian Research Council*, Funding for Workshops, Seminars, and Conferences (80.000NOK), “Learning from each other – ReleQuant and Einstein First: Developing and researching learning resources and teacher guides within modern physics in Norway and Australia”.
- 2013–2016 **Project Leader and Mentor for Student Physics Magazine “Detektor”**, Hamburg, Germany.

Honors

- 2018 **Norwegian Research Council personal overseas research grant**, University of Oslo, Norway, University of Western Australia & Australian National University, Australia.
- 2018 **ESERA Travel Award**, University of Western Australia, Australia.
- 2014 **DAAD Promos Mobility Stipend**, University of Göttingen, Germany.
- 2011 **Bachelor of Science with Distinction**, University of Göttingen, Germany.

Associations

- 2018-present **ISLS**, International Society of the Learning Sciences.
- 2017-present **PESGB**, Philosophy of Education Society of Great Britain.
- 2016-present **EARLI**, European Association for Research on Learning and Instruction.
- 2015-present **ESERA**, European Science Education Research Association.

Languages

German	Native Speaker	English	Fluent
Norwegian	Fluent	French	Basic Working Knowledge