

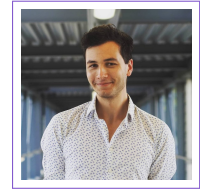
Daan Janssen

Curriculum Vitae

Karl Liebknecht Straße 2
04107 Leipzig
Germany

+31 6 18354081

✉ daanwillemjanssen@gmail.com



I am a PhD student in physics. I am creative, like to go off the beaten track, work well independently but also enjoy being part of a team. I like to do abstract and fundamental work in physics, but I also take an active interest in social issues, specifically diversity and inclusion.

Personal

Nationality Dutch

Date of birth 8th of November, 1995, age 27

Education

2019–now **Doctoral degree in Theoretical Physics,**
University of Leipzig, Leipzig, Germany.

Currently pursuing a doctoral degree under supervision of Prof. Dr. Rainer Verch with a project on quantum fields on curved space-time, semi-classical gravity and black hole formation and evaporation. Expected to finish in May 2023.

2016–2019 **Master Physics and Astronomy: Particle- and Astrophysics,**
Radboud University, Nijmegen, The Netherlands,
passed Cum laude.

Graduate education in physics with a focus on theoretical high energy physics and quantum gravity. Some relevant courses that I followed, were General Relativity, Quantum Field Theory, Quantum Gravity, String Theory (taken at Utrecht University) and Mathematical Foundations of General Relativity. Completed with thesis on algebraic quantum field theory on non-globally hyperbolic space-times and the information loss paradox, supervised by Prof. Dr. Klaas Landsman.

2013–2016 **Bachelor Physics and Astronomy,**
Radboud University, Nijmegen, The Netherlands,
passed Summa cum laude.

Undergraduate education in physics, including various programming courses. Completed with the thesis "Combinatorial Considerations on a Two-Dimensional Toy Model for Quantum Gravity" supervised by Prof. Dr. Renate Loll.

2013–2016 **Bachelor Mathematics,**
Radboud University, Nijmegen, The Netherlands,
passed Summa cum laude.

Undergraduate education in mathematics, completed in parallel with the bachelor in Physics and Astronomy as a double bachelor programme.

2014–2016 **FNWI Honours Programme for Bachelor Students,**
Radboud Honours Academy, Nijmegen, The Netherlands.

Programme for talented bachelor students from the Faculty of Science, consisting of a group project where one writes a research proposal on an interdisciplinary subject, in our case on quantum biology, and an extension to the bachelor thesis research project, which includes a travel budget that has been used for a stay at the Perimeter Institute for Theoretical Physics.

2007–2013 **Pre-University Education, Stedelijk Gymnasium,**
's-Hertogenbosch, The Netherlands.

Work Experience

- 2019–now **Scientific employee**, *Universität Leipzig*, Leipzig, Germany.
I am employed by the University of Leipzig as a PhD fellow of the DFG Research Training Group in Strong Dynamics and Criticality in Quantum and Gravitational Systems (RTG 2522).
- 2016–2019 **Teaching assistant**, *Radboud University*, Nijmegen, The Netherlands.
I have thought various exercise classes to students in physics and mathematics, for which I also had a training. The courses that I taught, were:
Introduction to Mathematics (first year course)
Quantum Mechanics 2 (third year course)
General Relativity (graduate course)

Honors & Awards

- 2017 **NNV-SPIN Bachelor Project Contest**, *Nederlandse Natuurkundige Vereniging*, Groningen, The Netherlands.
Award for best bachelor thesis of the year in physics
- 2014 **Young Talent Incentive Prize, Physics**, *Koninklijke Hollandsche Maatschappij der Wetenschappen*, Haarlem, The Netherlands.
Prize for physics students with the best results in their first year at their respective university

Additional Experiences

- 2021–now **Core team member of LGBTQ+ STEM Berlin**, Berlin, Germany.
As part of this team I help organize network events for people working in Science, Technology, Engineering and Mathematics with specific focus on those that identify as LGBTQ+. Furthermore, via outreach events we help foster a culture that is accepting and supportive of queer people in STEM fields, both on the work floor and in society as a whole.
- 2017–2019 **Chair**, *LGBT+ youth organization Dito!*, Nijmegen, the Netherlands.
I chaired an organization that aims to advance the emancipation and (self-)acceptance of queer youth/students and organizes easily accessible events for those that wish to be a part of the queer community. As such I also chaired the Dutch Queer Student Network.
- 2016–2018 **Student member of two appointment advisory Committees**, *Radboud University*, Nijmegen, The Netherlands.
I advised on the appointment of staff members for two research groups:
Spectroscopy of Cold Molecules (2017–2018)
Quantum Gravity (2016–2017)
- 2016–2017 **Vice-chair**, *Study Association Marie Curie*, Nijmegen, The Netherlands.
I acted as vice-chair for the study association for Physics and Astronomy at Radboud University. Besides being a member of the board I was responsible for acquisition of sponsors for the association.
- 2016 **Student member of tenure track committee**, *Radboud University*, Nijmegen, The Netherlands.
I advised on the evaluation of the tenure for a staff member in the Quantum Gravity group at Radboud University.
- 2014–2015 **Member of the program committee for Physics and Astronomy**, *Radboud University*, Nijmegen, The Netherlands.
I represented the students of Physics and Astronomy in the committee that evaluated the course program.
- 2013–2018 **Member of various committees**, *Study Association Marie Curie*, Nijmegen, The Netherlands.

Skills

- Scientific** My background in both physics and mathematics makes me a versatile researcher. I have experience in writing a research proposal and doing independent research. Furthermore I highly enjoy scientific debates and lively discussions.
- Programming** I have experience in using various programming languages such as Python and Java, as well as technical computing software such as Mathematica.
- Teaching** Due to my work as a teaching assistant, I have experience in explaining concepts from physics and mathematics to students at various stages of their education.
- Communication** I have experience in public speaking, both in a scientific context, as in a more general context, due to my work as a board-member for various organizations and the fact that I do theater in my spare time. My experience as a board-member has also taught me how to communicate effectively in a team and how to avoid conflict due to miscommunications. I also have experience in moderating panel discussions. I speak Dutch (native), English (fluent) and German (moderately).
- Leadership** I have experience in leading a team due to my work as a chair for a local volunteer organization. This involved, among other things, developing long term and short term ambitions and goals, delegating tasks, leading discussions and seeking consensus, conflict management and representing our organization on public events.

Interests

- Natural/mathematical sciences: I have been a science enthusiast all my life, of course in particular regarding (theoretical) physics.
- Art: I perform in (musical) theatre and take a wide interest in performance, visual and literary arts.
- Politics: I take an active interest in local and global politics, specifically with regards to education, science and emancipation.
- LGBT+ & diversity issues: I have acted as an advocate for LGBT+ rights and inclusion on both local and national platforms.

Publications (including preprints)

- [1] Daan W. Janssen and Rainer Verch. “Hadamard states on spherically symmetric characteristic surfaces, the semi-classical Einstein equations and the Hawking effect”. In: *Classical and Quantum Gravity* 40.4 (Jan. 2023), p. 045002. DOI: 10.1088/1361-6382/acb039. URL: <https://dx.doi.org/10.1088/1361-6382/acb039>.
- [2] Benjamin Hinrichs, Daan W. Janssen, and Jobst Ziebell. “Super-Gaussian Decay of Exponentials: A Sufficient Condition”. In: arXiv:2205.09189 (May 2022). DOI: 10.48550/arXiv.2205.09189. arXiv: 2205.09189 [math].
- [3] Daan W. Janssen. “Quantum Fields on Semi-globally Hyperbolic Space–Times”. In: *Commun. Math. Phys.* 391.2 (Apr. 2022), pp. 669–705. ISSN: 1432-0916. DOI: 10.1007/s00220-022-04328-7.

Selection of conference and seminar contributions

On quantum fields on semi-globally hyperbolic space-times

- Jul. 2022 **Conference presentation**, *Global Structures in Semi-Classical Gravity*, Munich Center for Mathematical Philosophy, LMU, Germany
- May 2022 **Conference presentation**, *Quantum Fields on Curved Space–Times Workshop*, online
- May 2022 **Invited seminar**, *University of York Mathematics Seminar*, online
- Apr. 2022 **Invited seminar**, *Radboud University Quantum Theory & Gravitation Seminar*, online

On Hadamard states on characteristic surfaces and semi-classical gravity as characteristic initial value problem

- Sep. 2022 **Conference presentation**, *Energy conditions in quantum field theory*, University of Leipzig, Germany
- Sep. 2022 **Poster presentation**, *Bad Honnef Physics School on Black Holes*, Bad Honnef Physics Center, Germany
- Mar. 2022 **Conference presentation**, *Jena-Leipzig Physik Combo*, FSU Jena, Germany
- Oct. 2021 **Seminar during research visit**, *Mathematics seminar*, University of Genoa, Italy