



 Netherlands  
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# Jeroen van der Meer

**Curriculum vitae**  
*As of July 19, 2024*

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## Experience

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**Metrology researcher** **2022–present**

*ASML*

I develop algorithms to improve the accuracy of the interferometry systems within ASML's lithography machines. Some contributions: Invention of several algorithms for reconstructing, modelling, and correcting measurement data. Studies on aberration-induced shifts in alignment targets. Development of internal data analysis and modelling toolbox in Julia.

**Physics R&D engineer** **2022–2024**

*TMC*

Consultant in the physics, nanotechnology, and data science section. Fulfilled some volunteer roles for onboarding and internal events.

**Mathematician** **2019–2022**

*University of Copenhagen*

Research position in mathematics. I specialised in homotopy theory (the study of mathematical structures with data encoding deformations). My main contribution was to reinterpret some invariants from group theory (the study of symmetry) in a homotopy-theoretic language, allowing me to introduce new machinery to compute these invariants.

**Hospice volunteer** **2017–2019**

*Hospice Kromme Rijnstreek, Houten*

I worked as a part-time hospice volunteer back when I was a master's student.

**Teaching assistant** **2015–2017**

*Utrecht University*

Assisted in teaching numerous bachelor's-level courses in mathematics and physics.

## Education

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**Ph.D. in mathematics** **2019–2022**

*University of Copenhagen*

Thesis: Higher-algebraic Picard invariants in modular representation theory

**M.Sc. in mathematics** **2017–2019**

*Leiden University*

Thesis: A stack-theoretic perspective on KU-local stable homotopy theory

GPA: 4.0 / 4.0

**B.Sc. in physics and astronomy**

2014–2017

*Utrecht University*

GPA: 4.0 / 4.0; with Honours

**B.Sc. in mathematics**

2014–2017

*Utrecht University*

Thesis: On the construction and classification of exotic structures on the 7-sphere

GPA: 4.0 / 4.0; with Honours

## Other skills

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- **Programming:** Julia, MATLAB, Python, C++
- **Computer hardware:** Semiconductors, CMOS processing, computer architecture, VHDL
- **Networking:** TCP/IP, security
- **Data science:** NumPy, Pandas, TensorFlow, Postgres
- **Communication:** Exposition, LaTeX typesetting, public speaking

## Some activities

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**Young Topologists Meeting***University of Copenhagen*

Co-organiser of the 2022 Young Topologists Meeting, Europe's largest research conference for topologists.

**Research visit to Münster***WWU Münster*

Three-month research stay at the Cluster of Excellence of the University of Münster in 2021, primarily for research collaboration.

**Nationale Wiskunde Symposium***Utrecht University*

Co-founder of the Nationale Wiskunde Symposium ('National Mathematics Symposium'), a now yearly Dutch mathematics symposium aimed at undergraduates.

**Member of Science Honours Academy***Utrecht University*

Part of the Honours bachelor's programme. Among other things: member of the organising committee for interdisciplinary research projects; participant in a joint project on quantum cryptography.

## Outside of work

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I do kickboxing and choral singing. I'm a reasonably good cook. In my spare time, I enjoy reading about history, and toying around with electronics.