WOUT CHRISTIAAN MOLTMAKER

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EDUCATION

Universiteit van Amsterdam, Amsterdam, the Netherlands — *September 2021 - Present*
PhD Mathematics

University of Oxford, Oxford, United Kingdom — *October 2020 - July 2021*
MSc Mathematical Sciences — First Class Honours, Distinction — Rank in cohort: 3rd

Rijksuniversiteit Groningen, Groningen, the Netherlands — *September 2017 - July 2020*
BSc Mathematics — Summa Cum Laude — Average: 9.4/10

Rijksuniversiteit Groningen, Groningen, the Netherlands — *September 2017 - July 2020*
BSc Physics — Summa Cum Laude — Average: 9.4/10

Radboud Universiteit, Nijmegen, the Netherlands — *February 2018 - July 2020*
Visiting Student Mathematics — 12 ECTS total — Average: 9.0/10

Dr. Nassau College, Assen, the Netherlands — *July 2011 - June 2017*
Gymnasium — Cum Laude

WORK EXPERIENCE

Universiteit van Amsterdam — *September 2021 - Present*
PhD Candidate under J.A. Ellis-Monaghan & L.H. Kauffman

· Conducting research independently and in collaborative work-groups.
· Attendance at and organization of conferences and seminars.
· Teaching: Numerical Algorithms 21/22, Topology 21/22, Algebra 2: Rings and Fields 22/23, Topology in Physics (MSc) 22/23.

Rijksuniversiteit Groningen — *September 2018 - April 2020*
Teaching Assistant to dr. ir. Roel Luppes

· September 2018 - November 2018: Calculus for Artificial Intelligence (BSc Artificial Intelligence)
· September 2019 - November 2019: Numerical Methods (BSc Industrial Engineering and Management)
· January 2020 - April 2020: Computer Aided Problem Solving (BSc Mathematics)
· Tasks included teaching tutorial classes to groups of approx. 25 students, invigilating and grading exams, grading projects, and meeting with students to discuss projects weekly.

ACADEMIC WORK

Papers, Preprints, and Proceedings

· On Vassiliev Invariants of Virtual Knots (Accepted pending minor revision to Topology and Applications, ArXiv 2208.10467)

- New Quantum Invariants of Planar Knotoids (ArXiv 2207.04894, to appear in Communications in Mathematical Physics)
- Macro Legalization in Chip Design (SWI scientific proceedings)
- Framed Knotoids and Their Quantum Invariants (Communications in Mathematical Physics, Volume 393, issue 2)
- A Hopf algebra approach to q-Deformation of Physics (Bachelor's Thesis, unpublished)

Workshops and Conference Organization
- Workshop on DNA knotting at USF, 2023 (invited speaker)
- Dutch Day of Combinatorics 2022 (local organizer)
- Study Group Mathematics with Industry 2022 (participant)
- KdVI Discrete Mathematics seminar (organizer, weekly from September 2021 until present)

Talks
- Quantum Invariants and Knot Measures (DNA knotting workshop at USF, 2023)
- Vassiliev Invariants of Rotational Virtual Knots (Kauffman Quantum Topology Seminar & KdVI Discrete Math Seminar)
- New Quantum Invariants of Planar Knotoids (Groningen Topology Seminar, Workshop on DNA knotting, Dutch Days of Combinatorics)
- Knotoids and Open Curves (Knot Theory and Applications, Tomsk)
- Khovanov Homology and Categorification of Graph Polynomials (KdVI Discrete Math Seminar)
- Quantum Invariants of Biframed Knotoids (DIAMANT Symposium)
- Reshetikhin-Turaev Knot(oid) Invariants (Groningen Topology Seminar)
- Reshetikhin-Turaev Knot Invariants (KdVI Discrete Math Seminar)
- Framed and Biframed Knotoids (8$^{\text{th}}$ European Congress of Mathematics)

Posters
- Quantum Invariants of Biframed Knotoids (RuG Fundamentals of the Universe Symposium)

Reviewing for Academic Journals and Repositories
- zbMATH Open
- Mediterranean Journal of Mathematics
- Mathematical Proceedings of the Cambridge Philosophical Society

LANGUAGES

Dutch	(C2 Proficiency, Native speaker)
English	(C1 Proficiency, IELTS Academic test certified)
German	(B1 Proficiency)

VOLUNTEERING EXPERIENCE

JWG, The Netherlands   *December 2018 - Present*
Camp management

- Organizing and overseeing Astronomy-themed recreational camps for youth aged 13-18. Preparing activities. Giving talks on astronomy and cosmology aimed at a middle school level.

FMF, Groningen   *November 2018 - July 2020*
Committee member

· Member of a committee for the study association FMF in Groningen. Organization of mathematics-related events, e.g. recreational lectures by faculty members. Chair of committee in June 2019, and from September 2019 until July 2020.

TFV Francken, Groningen *September 2018 - October 2019*
Committee member

· Member of a committee for the study association TFV Francken in Groningen. Organization of study-related events. Managing and re-stocking of supplies.

AWARDS & DISTINCTIONS

New Horizon Mathematics Prize from St. Peter's college, Oxford.

Departmental award for best OMMS (Oxford Masters in Mathematical Sciences) dissertation.

Graduate award St. Peter's college, Oxford (trinity term 2021).

First class honours (distinction) on MSc diploma from the University of Oxford.

Highest honours (summa cum laude) on both BSc degrees.

MISCELLANEOUS ACADEMIC ACTIVITIES

Followed the course 'Topology' at the Radboud University in 2018/2019 for 6 extracurricular ECTS.

Followed the course 'Categories and Homological Algebra' at the Radboud University in 2019/2020 for 6 extracurricular ECTS.

Participated in and contributed talks to the seminars 'Algebraic Topology' and 'Knot Theory' organized by Roland van der Veen and Jorge Becerra at the Rijksuniversiteit Groningen in 2018 and 2019.