Christiaan van de Ven

Curriculum Vitae et Studiorum (January 2024)

Personal information

Name	Christiaan Jozef Farielda
Surname	van de Ven
Date and place of birth	17 March 1991, Venlo (The Netherlands)
Nationality	Dutch
Email	christiaan.vandeven@mathematik.uni-wuerzburg.de, chris__13@hotmail.com
Homepage	christiaanvandeven.org

Employment history

06/2022 – Today **Post-doctoral position**, Post-doctoral researcher at *Institut für Mathematik, University of Würzburg, Germany.*
This position is funded by the Alexander von Humboldt Foundation.

01/12/2021 – 30/04/2022 **Post-doctoral position**, Post-doctoral researcher at *Max Planck Planck Institute for Mathematics in the Sciences, Leipzig (Germany).*

01/11/2018 – 14/12/2021 **PhD position**, PhD candidate at *University of Trento, Trento (Italy)*
My PhD was part of the European project INdAM-DP-Cofund-2015 'INdAM Doctoral Programme in Mathematics and/or Application Cofunded by Marie Skłodowska-Curie Actions'.

Education and training

01/11/2018 – 14/12/2021 **PhD**, cycle XXXIV, Mathematics, *University of Trento*, Trento (Italy)
PhD Thesis Title: *Quantum Systems and their Classical Limit, a C^*-Algebraic Approach.*
Supervisor: Prof. Valter Moretti.
Judicium: *cum laude*

31/05/2018 **Master of Science**, Mathematics, *Radboud University Nijmegen*, Nijmegen (The Netherlands)
MSc Thesis Title: *Properties of quantum spin systems and their classical limit, from the quantum Curie-Weiss model to the double well potential* (click here).
Supervisor: Prof. Klaas Landsman.
Judicium: *cum laude*

20/04/2015 **Pre-master**, Mathematical Physics, *Radboud University Nijmegen*, Nijmegen (The Netherlands)
Remark: the pre-master program lasted approximately two years as an extension of the BSc program.

20/04/2015 **Bachelor of Science**, Chemistry, *Radboud University Nijmegen*, Nijmegen (The Netherlands)
BSc Thesis Title: *Eutectic melting in binary mixtures and polymorphism.*
Supervisor: Dr. Hugo Meekes.
Judicium: *cum laude*

04/2015 – 06/2015 **Internship**, Erasmus internship in Mathematics, *University of Cagliari*, Cagliari (Italy)

31/08/2011 **Propedeuse**, Molecular Life Sciences, *Radboud University Nijmegen*, Nijmegen (The Netherlands)
Judicium: *cum laude*

30/06/2010 **Gymnasium**, Profile: Nature and Health, Nature and Technology, *Valuascollege Venlo*, Venlo (The Netherlands)

Grants

11/2021 **Alexander von Humboldt Fellowship**, Alexander von Humboldt fellowship for postdoctoral researchers awarded by the *Alexander von Humboldt Foundation*, see (click here)

09/2018 **PhD Scholarship**, Marie Skłodowska-Curie Fellowship awarded by the *Istituto Nazionale di Alta Matematica (INdAM)*, Grant number: 800 713485, see (click here)

07/2018 **Assegno di ricerca**, Scholarship for PhD in Mathematics at the University of Trento, cofunded by the national project *Dipartimenti di Eccellenza*, see (click here) and also (click here)
I have declined this scholarship due to the grant INdAM I obtained soon after.

2005 **Kangaroo exam**, First place Kangaroo exam (mathematics) Valuascollege Venlo (The Netherlands)

Publications and preprints

1. T.D.H. van Nuland, C.J.F. van de Ven,
Classical dynamics of infinite particle systems in an operator algebraic framework
Preprint: *ArXiv:2309.06242 (2023).*

2. C.J.F. van de Ven,
Gibbs states and their classical limit
Submission: Rev. Math. Phys (in press), *arXiv:2211.01755 (2022).*

3. N. Drago, C.J.F. van de Ven,
Strict deformation quantization and local spin interactions
Submission: *Commun. Math. Phys., Vol. 405, 14, (2024)*

4. N. Drago, C.J.F. van de Ven,
DLR-KMS correspondence on lattice spin systems
Submission: *Lett. Math. Phys. 113, 88 (2023)*

5. C.J.F. van de Ven,
Emergent phenomena in Nature: a paradox with Theory?
Submission: *Found. Phys. 53, 79 (2023)*

6. C.J.F. van de Ven,
The classical limit and spontaneous symmetry breaking in algebraic quantum theory.
Submission: *Expo. Math. Vol. 40, Iss. 3 (2022)*.

7. V. Moretti, C.J.F. van de Ven,
The classical limit of Schrödinger operators in the framework of Berezin quantization and spontaneous symmetry breaking as emergent phenomenon.
Submission: *Int. J. Geom. Methods Mod. Phys. Vol. 19, Iss. 01 (2022).*

8. S. Murro, C.J.F. van de Ven,
Injective tensor products in strict deformation quantization.
Submission: *Math. Phys. Anal. Geom. Vol. 25, Iss. 2 (2022)*.

9. C.J.F. van de Ven,
The classical limit of mean-field quantum spin systems.
Submission: *J. Math. Phys. Vol. 61, Iss. 12 (2020)*.

10. V. Moretti, C.J.F. van de Ven,
Bulk-boundary asymptotic equivalence of two strict deformation quantizations.
Submission: *Letters. Math. Phys. Vol. 110, Iss. 11 (2020)*.

11. K. Landsman, V.Moretti, C.J.F. van de Ven,
Strict deformation quantization of the state space of $M_k(\mathbb{C})$ with applications to the Curie-Weiss model.
Submission: *Rev. Math. Phys. Vol. 32, Iss.10 (2020)*.

12. C. J. F. van de Ven, G. C. Groenenboom, R. Reuvers, N. P. Landsman,
Quantum spin systems versus Schrödinger operators: A case study in spontaneous symmetry breaking.
Submission: *SciPost Vol. 8, Iss. 2 (2020)*.

Participation in external national/international scientific events

05/02/2024 – 09/02/2024 Conference *Randomness 2024*, São Paulo (Brazil). Invited speaker. (click here)

24/07/2023 – 28/07/2023 Conference *Interfaces Between Quantum and Classical Statistical Mechanics*, São Paulo (Brazil). I was an invited speaker. Title of my talk: *The commutative resolvent algebra: an approach to dynamical classical lattice systems*. (click here)

26/06/2023 – 30/06/2023 Hausdorff School *Recent Advances in Quantum and Statistical Mechanics*, Bonn (Germany). (click here)

13/03/2023 – 17/03/2023 Conference *Quantum many body systems and quantum information*, Madrid (Spain). (click here)

12/09/2022 – 15/09/2022 Workshop *Math in the Mill 2022*, Sondheim vor der Rhön (Germany). I was a contributed speaker. Title of my talk: *Symmetry breaking in Nature versus Theory*. (click here)

24/06/2022 – 25/06/2022 LQP Workshop $46rd$ *Foundations and Constructive aspects of QFT*, Erlangen (Germany). I was a contributed speaker. Title of my talk: *A C^*-algebraic approach to the classical limit of quantum systems*. (click here)

21/03/2022 – 25/03/2022 Online Conference *virtual DPG Spring Meeting*, Heidelberg (Germany). I was a contributed speaker. Title of my talk: *A C^*-algebraic approach to the classical limit of quantum systems*. (click here)

02/08/2021 – 06/08/2021 Summer School *GEOQUANT 2021- 'Geometry & Quantization - Deformation quantization and convergence'*, Freiburg (Germany). (click here)

22/03/2021 – 26/03/2021 Online Conference *Gran Sasso Quantum Meetings @GSSI: From Equilibirum Phenomena Towards Open Quantum Systems*, L'Aquila (Italy). I was a contributed speaker. Title of my talk: *Strict deformation quantization: a C^*-algebraic approach to the classical limit of quantum systems*. (click here)

31/08/2020 – 09/09/2020 Summer School *XLV Summer School on Mathematical Physics*, Ravello (Italy). I was a contributed speaker. Title of my talk: *On strict deformation quantization of Poisson manifolds with applications to the classical limit and SSB*. (click here)

19/06/2020, 22/06/2020 Online Summer School *Applications of Bogoliubov Theory, Mathematical Physics of Quantum Many-Body Systems*, Milan (Italy). (click here)

17/12/2019 – 20/12/2019 Conference *From semi-classical to quantum many body through normal forms*, Milan (Italy). (click here)

08/11/2019 Conference *First Math Young Researchers Meeting*, Genova (Italy). I was an invited speaker. Title of my talk: *Properties of quantum spin systems and their classical limit with emphasis to SBB*. (click here)

24/07/2019 – 26/07/2019 Conference *Trieste Junior Quantum Days*, Trieste (Italy). I was a contributed speaker. Title of my talk: *Properties of Quantum Spin Systems and their Classical Limit*. (click here)

22/04/2019 – 26/04/2019 Spring School *From Quantum to Classical*, Marseille (France). (click here)

20/02/2019 – 22/02/2019 LQP Workshop $43rd$ *Foundations and Constructive aspects of QFT*, Florence (Italy). (click here)

Visits and seminars

11/10/2023 - 15/10/2023 *Boğaziçi Üniversitesi*, Istanbul (Turkey). Seminar in the group of prof. Tanbay

09/10/2023 - 11/10/2023 *Universität Bonn*, Bonn (Germany). Seminar in the group of prof. Disertori

25/09/2023 - 29/09/2023 *Universität Potsdam*, Potsdam (Germany). Visit to prof. Keller

15/08/2023 - 16/08/2023 *Boğziçi Üniversitesi*, Istanbul (Turkey). Visit to prof. Tanbay

04/07/2023 - 06/07/2023 *Universität zu Köln*, Köln (Germany). Visit and seminar in the group of prof. Marinescu

25/04/2023 - 26/04/2023 *Technische Universität München*, München (Germany). Visit and seminar in the group of prof. Warzel

05/12/2022 - 09/12/2022 *School of Mathematics*, Cardiff (Wales). Visit and seminar in the group of Dr. Naaijkens

21/11/2022 - 23/11/2022 *L'Université de Genève*, Genève (Switzerland). Visit and seminar in the group of prof. Velenik

11/02/2020–14/02/2020 *Scuola Normale Superiore di Pisa*, Pisa (Italy) .Visit to prof. Correggi

11/11/2019 *Università di Genova*, Genova (Italy). Visit to prof. Pinamonti

23/06/2019–25/06/2019 *University of Leipzig* and the *Max Planck Institute*, Leipzig (Germany)

14/06/2019 *University of Messina*, Messina (Italy). Visit and seminar in the group of prof. Francesco Oliveri

03-06-2019 *Politecnico di Bari*, Bari (Italy). Indam Day 2019

2019 *Radboud University Nijmegen*, Nijmegen (The Netherlands). Visit to prof. Klaas Landsman

2017 *Sissa*, Trieste (Italy). Visit to prof. Alessandro Michelangeli as a part of my MSc

Webinars

06/05/2021 *Strict deformation quantization: a C^*-algebraic approach to the classical limit of quantum systems.* In the group of prof. Marcin Napiórkowski, *University of Warsaw*, Warsaw (Poland).

26/02/2021 *Asymptotic equivalence of two strict deformation quantizations and applications to the classical limit.* In the group of prof. Stephan Waldmann, *University of Würzburg*, Würzburg (Germany).

17/02/2021 *Strict deformation quantization: a C^*-algebraic approach to the classical limit of quantum systems.* In the group of prof. Jan Philip Solovej, *University of Kopenhagen*, Kopenhagen (Denmark).

04/02/2021 *Asymptotic equivalence of two strict deformation quantizations and applications to the classical limit.* In the group of prof. Felix Finster, *University of Regensburg*, Regensburg (Germany).

17/12/2020 *Asymptotic equivalence of two strict deformation quantizations and applications to the classical limit.* In the group of prof. Gianluca Panati, *'La Sapienza', University of Rome*, Rome (Italy).

26/11/2020 *Asymptotic equivalence of two strict deformation quantizations and applications to the classical limit.* (Click here) 'Doc in Progress', *University of Trento*, Trento (Italy).

03/11/2020 *Asymptotic equivalence of two strict deformation quantizations and applications to the classical limit.* (Click here) International group of non-commutative geometry (NCG). Invited by prof. Walter van Suijlekom (Radboud University Nijmegen) and prof. Giovanni Landi (University of Trieste).

Supervising and referee activities

07/2023 Member of Examination Board of Ph.D. candidate Lucas Affonso (University of São Paulo)

11/2023 Co-PhD advisor of Lorenzo Pettinari, started on 01.11.2023 (University of Trento)

2020 Reviewer for *Annals of Physics*

2021–2023 Reviewer for *Journal of Mathematical Physics*

PhD Courses

19/10/2020–12/11/2020 *The Geometry of Quantum Algorithms*, lecturer Prof. Frederic Holweck, *University of Trento*, Trento (Italy).

02/2019–07/2019 *Topics in the Mathematical Physics of Quantum Theories*, lecturer Prof. Romeo Brunetti, *University of Trento*, Trento (Italy).

02/2019–05/2019 *Introduction to Entanglement and Quantum Information*, lecturer Prof. Sonia Mazzucchi, *University of Trento*, Trento (Italy).

11/2018–02/2019 *Geometric Analysis*, lecturer Prof. Lorenzo Mazzieri, *University of Trento*, Trento (Italy).

Other employments

05/2020 **Translator**, Confidential translator (Dutch–Italian) for the Guardia di Finanza (Italian law enforcement agency under the authority of the Minister of Economy and Finance)

2011– 2018 **Teaching assistant**, Teaching assistant/tutor in courses in the curricula of Mathematics, Physics, Chemistry and Life Sciences, *Radboud University Nijmegen*, Nijmegen (The Netherlands)

2009–2015 **Teaching assistant**, teaching and tutoring high school pupils in in exact courses and classical languages (Latin and Greek)

04/2015 – 06/2015 **Teaching assistant**, Teacher assistant of a Bachelor course in Physics, *University of Cagliari*, Cagliari (Italy)

2003 – 06/2010 **Side jobs**, Several side jobs, restaurant employee, postal service

Language skills

Dutch Mother tongue

Italian Native, C2 (speaking, writing, listening, reading)

English Near native, C1 (speaking, writing, listening, reading Cambridge certificated)

German Excellent command, C1 (speaking, listening, reading)

French Good command, B1 (listening, reading)

Turkish Basics, A1

Digital skills

Linux Server management

Programming Programming in Matlab and C

Website Maintenance and design of web pages

References

Stefan Waldmann Professor of Mathematical Physics at *University of Würzburg*. Address: Emil-Fischer-Straße 31, Würzburg (Germany). Email: stefan.waldmann@mathematik.uni-wuerzburg.de

Valter Moretti Professor of Mathematical Physics at *University of Trento*. Address: Via Sommarive 14, Povo (Trento, Italy). Email: valter.moretti@unitn.it

Klaas Landsman Professor of Mathematical Physics at *Radboud University Nijmegen*. Address: Heyendaalseweg 135, Nijmegen (The Netherlands). Email: landsman@math.ru.nl