

# Teaching and supervision experience of Dr Dirk Schuricht

## Lecture courses (at Utrecht University unless stated)

24. Phase transitions, RG, and all that (Advanced topics in theoretical physics), 11/2023–12/2023
23. Advanced quantum mechanics, 11/2023–1/2024
22. Quantum materials/Field theory in condensed matter, with Rembert Duine and Zeila Zanolli, 2/2023–6/2023
21. Advanced quantum mechanics, 11/2022–1/2023
20. Field theory in condensed matter, with Rembert Duine, 2/2022–6/2022
19. Advanced quantum mechanics, 11/2021–1/2022
18. Field theory in condensed matter, with Rembert Duine, 2/2021–6/2021
17. Advanced quantum mechanics, 11/2020–1/2021
16. Field theory in condensed matter, with Rembert Duine, 2/2020–6/2020
15. Advanced quantum mechanics, 11/2019–1/2020
14. Field theory in condensed matter, with Rembert Duine, 2/2019–6/2019
13. Advanced quantum mechanics, 11/2018–1/2019
12. Quantum matter, 4/2018–6/2018
11. Statistical field theory, with Giuseppe Mussardo, 9/2017–1/2018
10. Quantum matter, 4/2017–6/2017
9. Field theory in condensed matter, with Lars Fritz, 2/2017–6/2017
8. Quantum matter, 4/2016–6/2016
7. Classical field theory, with Rembert Duine, 2/2016–4/2016
6. Bosonisation, 2/2016–3/2016
5. Quantum matter, 4/2015–6/2015
4. Quantum phases and Majorana fermions in spin chains, 2/2015–3/2015
3. Quantum matter, with Rembert Duine, 4/2014–6/2014
2. Special relativity, RWTH Aachen University, 10/2012–3/2013

1. Low-dimensional magnetic and electronic systems, RWTH Aachen University, 10/2011–3/2012

### **Other teaching obligations**

12. Non-equilibrium Quantum Field Theory, DRSTP school, 3/2017
11. Problem sets in Classical Mechanics, RWTH Aachen University, 4/2011–9/2011
10. Problem sets in Statistical Mechanics, RWTH Aachen University, 10/2009–3/2010
9. Problem sets in Classical Mechanics, RWTH Aachen University, 4/2009–9/2009
8. Problem sets in Introduction to Theoretical Physics, RWTH Aachen University, 10/2008–3/2009
7. Tutorial in Condensed Matter Theory, University of Oxford, 11/2007–12/2007
6. Problem sets in Mathematical Foundations of Physics, University of Karlsruhe, 4/2006–9/2006
5. Tutorial in Classical Electrodynamics, University of Karlsruhe, 10/2005–3/2006
4. Problem sets in Condensed Matter Theory, University of Karlsruhe, 4/2004–9/2005
3. Tutorial in Classical Electrodynamics, University of Karlsruhe, 10/2003–3/2004
2. Tutorial in Classical Mechanics, University of Karlsruhe, 4/2002–9/2003
1. Tutorial in Analysis and Linear Algebra, University of Karlsruhe, 4/2000–3/2002

### **(Co-)Supervised Bachelor's theses**

30. Lars van Eekeren, *Courant–Fischer formula in spectral theory and examples of applications*, Bachelor Physics and Mathematics, Utrecht University, with Michał Wrochna, since 2/2024–6/2024
29. Tobias Vermin, *Determining the ground state energy of the extended Heisenberg model up to first order*, Bachelor Physics, Utrecht University, since 2/2024–6/2024
28. Tira Hoek, *The energy spectrum of the isotropic Heisenberg chain with next-nearest neighbour interactions*, Bachelor Physics, Utrecht University, 9/2023–1/2024

27. Floris Meijvis, *Electron density flow in graphene*, Bachelor Physics and Mathematics, Utrecht University, with Emanuele di Salvo and Yuri Kuznetsov, 9/2023–1/2024
26. Martijn van de Kamp, *Critical behaviour of the transverse-field Ising model and the Ising zigzag ladder*, Bachelor Physics, Utrecht University, 2/2023–6/2023
25. Charlie Tang, *Electron density waves in graphene and Korteweg–de Vries–Burgers equation*, Bachelor Physics and Mathematics, Utrecht University, with Emanuele di Salvo and Yuri Kuznetsov, 2/2023–6/2023
24. Ludo van Wieringen, *Spin and the representation theory of rotations*, Bachelor Physics and Mathematics, Utrecht University, with Valentijn Karemaker, 2/2023–6/2023
23. Quirijn Kokkeler, *Modelling the Heisenberg chain in 1D using non-splitting methods*, Bachelor Physics and Mathematics, Utrecht University, with Jason Frank, 9/2022–1/2023
22. Anna Nieuwenhuis, *Hamilton-Jacobi theory and Hamiltonian systems in symplectic geometry*, Bachelor Physics and Mathematics, Utrecht University, with Marius Crainic, 2/2022–6/2022
21. Vincent Kuhlmann, *A description of the Aharonov-Bohm effect using connections on a bundle*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 2/2022–6/2022
20. Tess van Leeuwen, *Representations of the Lie algebra  $su(2)$  and the AKLT model*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 2/2021–6/2021
19. Paul van Hoegaerden, *Clifford algebras and their application in the Dirac equation*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 2/2021–6/2021
18. Dennis Hilhorst, *Braid groups*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 2/2021–6/2021
17. Jelle Draijer, *An exploration of gauge theory and spinors on a spacetime manifold*, Bachelor Physics and Mathematics, Utrecht University, with Álvaro del Pino Gómez, 2/2021–6/2021
16. Hanna den Oudsten, *The path integral*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 9/2020–1/2021
15. Casper van Hal, *An introduction into Lie group, Lie algebra, representations and spin*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 9/2020–1/2021

14. Corijn Rudrum, *Elliptic curves and the Yang–Baxter equation*, Bachelor Physics and Mathematics, Utrecht University, with Lennart Meier, 2/2020–6/2020
13. Daniël Kuijper, *Solutions to the one-dimensional Heisenberg model*, Bachelor Physics, Utrecht University, 2/2020–6/2020
12. Meritxell Valls Boix, *The Heisenberg model*, Bachelor Physics, University Toulouse and Utrecht University, 2/2020–6/2020
11. Sebastiaan Wiechers, *Applications of integral transformations in mechanical and quantummechanical problems*, Bachelor Physics, Utrecht University, 2/2019–6/2019
10. Andeos Rigas, *Phase Transitions in the Transverse-field Ising Ladder*, Bachelor Physics, Utrecht University, 2/2019–6/2019
9. Rody van der Jagt, *Spin waves in one-dimensional magnetic systems*, Bachelor Physics, Utrecht University, 2/2018–6/2018
8. Ken de Ruiter, *Study of the ground state of the one-dimensional Heisenberg spin-1/2 chain*, Honours Bachelor Physics, Utrecht University, 9/2017–6/2018
7. Achim Byl, *Properties of finite Ising models in two dimensions*, Bachelor Liberal Arts and Sciences, University College Roosevelt, with Leo de Wit, 9/2017–12/2017
6. Joris Moens, *Next nearest neighbour interactions in the Heisenberg model*, Bachelor Physics, Utrecht University, 2/2017–6/2017
5. Floris Elzinga, *Mesoscopic electronic transport through ring-shaped nanostructures*, Bachelor Physics and Mathematics, Utrecht University, 2/2016–6/2016
4. Victor Onink, *Anisotropic XY model in a transverse field*, Bachelor Liberal Arts and Sciences, University College Utrecht, 1/2016–6/2016
3. Daniël Marsmans, *The behaviour of fermions in one-dimensional wires*, Bachelor Physics, Utrecht University, 10/2013–1/2014
2. Nicholas Ohs, *Time evolution in the Tomonaga–Luttinger model after a linear quantum quench*, Bachelor Physics, RWTH Aachen University, 5/2013–8/2013
1. Anne Cornelia Koop, *Untersuchung der Anregungslücke in  $S=1$  Spinketten*, Bachelor Physics, RWTH Aachen University, 5/2011–8/2011

#### **(Co-)Supervised Master’s and diploma theses**

10. Zhengyao Huang, *An exploration of quantum integrable system: Non-Equilibrium Dynamics of Tomonaga-Luttinger Liquid and Exceptional Points of Free Parafermion*, Master Theoretical Physics, Utrecht University, 9/2023–6/2024

9. Prajit Baruah, Master Theoretical Physics, Utrecht University, since 9/2023
8. Juan José Rodríguez Aldavero, *Topological phases of interacting parafermions*, Master Theoretical Physics, Utrecht University, 2/2022–1/2023
7. Dimitrios Loupas, *Quantum quenches in Luttinger liquids*, Master Theoretical Physics, Utrecht University, 9/2020–6/2021
6. Floris Elzinga, *Deformed CCR/CAR and free monotone transport: Quons and Fock parafermions*, Master Theoretical Physics and Mathematics, Utrecht University, with Erik van den Ban, 9/2018–6/2019
5. Laurens Stronks, *Spin chains and Yangians*, Master Theoretical Physics and Mathematics, Utrecht University, with Johan van de Leur, 9/2015–6/2016
4. Niklas M Gergs, *Non-equilibrium thermotransport through an Anderson quantum dot: Second order perturbation theory in the tunnel coupling*, Master Physics, RWTH Aachen University, with Maarten Wegewijs, 10/2012–9/2013
3. Stefan Göttel, Master Physics, *Funktionale Renormierungsgruppe für Spinketten*, RWTH Aachen University, with Sabine Andergassen, 9/2010–6/2011
2. Christoph B M Hørig, *Renormalization-group analysis of a spin-1 Kondo dot out of equilibrium*, Diploma Physics, RWTH Aachen University, with Sabine Andergassen, 2/2010–1/2011
1. Sarah Y Müller, *Nichtgleichgewichtstransport durch einen Quantenpunkt mit zwei Energieniveaus: eine Renormierungsgruppenanalyse*, Diploma Physics, RWTH Aachen University, with Sabine Andergassen, 5/2009–4/2010

### **(Co-)Supervised PhD theses**

8. Emanule Di Salvo, Utrecht University, with Lars Fritz, since 5/2021
7. Jurriaan Wouters, *Exotic phases in strongly correlated parafermion chains*, Utrecht University, 9/2017–1/2022
6. Sonja Fischer, *Thermal transport in systems with conformal symmetry and transport properties of a Chern insulator in non-integer dimensions*, Utrecht University, with Philippe Corboz and Lars Fritz, 9/2016–9/2020
5. Benedikt M Schönauer, *On non-equilibrium dynamics in low-dimensional strongly correlated quantum systems*, Utrecht University, 6/2015–6/2019
4. Moos van Caspel, *Symmetries and topology in quantum baths*, University of Amsterdam, with Jean-Sébastien Caux and Vladimir Gritsev, 10/2014–4/2019
3. Tatjana Puškarov, *Non-equilibrium properties of quantum spin chains*, Utrecht University, 10/2014–12/2018

2. Niklas M Gergs, *Transport and topological states in strongly correlated nanostructures*, Utrecht University, 10/2013–9/2017
1. Christoph B M Hög, *Nonequilibrium transport through Kondo quantum dots*, RWTH Aachen University and Utrecht University, 4/2011–12/2014

## Postdocs

4. Axel Cortés Cubero, Utrecht University (individual Marie-Curie fellowship), 5/2017–7/2019
3. Tom Price, Utrecht University, 8/2016–7/2018
2. Piotr Chudzinski, Utrecht University, 5/2014–7/2016
1. Alexandre Faribault, RWTH Aachen University, 9/2011–8/2013