

DATE & PLACE OF BIRTH: 1990/08/17 — Mexico - City
 NATIONALITY: German
 RESIDENCE: Be'er Sheva, Israel
 EMAIL: chnorthe@gmail.com

EDUCATION & POSTDOCS

2022/11 - present Postdoc, Ben-Gurion University of the Negev
 2019/11 - 2022/10 Postdoc (cond. mat.), Julius Maximilians University Würzburg
 2016/10 - 2019/10 PhD (high energy), Julius Maximilians University Würzburg
 2013/10 - 2015/12 MSc Physics, Humboldt University Berlin
 2012/10 - 2013/03 Exchange Program, University of California, Santa Barbara
 2010/10 - 2013/09 BSc Physics, Free University Berlin
 2003/09 - 2010/06 High School, Arndt Gymnasium Berlin

DEGREES

2019/11 Doctorate, grade: Magna cum Laude
 2015/12 Master of Science, grade*: 1.2
 2013/09 Bachelor of Science, grade*: 2.0
 2010/06 Abitur, grade*: 1.6

TEACHING

2022/06 - 2022/07 Lecturer, Julius Maximilians University Würzburg
 – I taught a series of lectures on Boundary Conformal Field Theory. These are [available here](#).
 2016/10 - Present Teaching Assistant, Julius Maximilians University Würzburg
 – Quantum field theory in condensed matter (Master level), String Theory I & II (Master level), Substitute for lecturer in AdS/CFT (Master level) and Statistical Mechanics (Bachelor level), Analytical Mechanics (Bachelor level)
 2014/06 - 2016/02 Teaching Assistant, Humboldt University Berlin
 – Standard Model (Master level), Computational Physics (Bachelor level), Analytical Mechanics (Bachelor level), Computation Methods (Bachelor level)

LANGUAGES

German (native), Spanish (native), English (fluent)

RESEARCH INTERESTS

High-Energy Theory

- Conformal field theory (CFT), string theory, gauge/gravity duality, quantum information in CFT and gauge/gravity duality, interfaces and boundaries in CFT and gauge/gravity duality, supersymmetry, quantum anomalies

Condensed Matter Theory

- Topological phases matter, quantum geometry, fractional Chern insulators, critical spin systems, Luttinger liquids, anomaly induced transport, impurity problems, quantum information in many-body systems, non-equilibrium systems

PUBLICATIONS AND PREPRINTS

- [1] C. Northe, *Entanglement resolution with respect to conformal symmetry*, *Physical Review Letters* **131** (2023) 151601.
- [2] C. Zhang, M. Ulybyshev, C. Northe and E. Hankiewicz, *Dissipative callan-harvey mechanism in 2+ 1 d dirac system: The fate of edge states along a domain wall*, *arXiv preprint arXiv:2305.00575* (2023) .
- [3] G. Di Giulio, R. Meyer, C. Northe, H. Scheppach and S. Zhao, *On the Boundary Conformal Field Theory Approach to Symmetry-Resolved Entanglement*, [2212.09767](#).
- [4] C. Northe, C. Zhang, R. Wawrzyńczak, J. Gooth, S. Galeski and E. M. Hankiewicz, *Conformal anomaly in magnetic finite temperature response of strongly interacting one-dimensional spin systems*, [2210.07972](#).
- [5] C. Northe, *Review on Top-Down Kondo-like Holographic RG Flows*, *JHAP* **4** (2022) 1.
- [6] S. Zhao, C. Northe, K. Weisenberger and R. Meyer, *Charged moments in W_3 higher spin holography*, *JHEP* **05** (2022) 166 [[2202.11111](#)].
- [7] C. Northe, G. Palumbo, J. Sturm, C. Tutschku and E. M. Hankiewicz, *Interplay of band geometry and topology in ideal Chern insulators in the presence of external electromagnetic fields*, *Phys. Rev. B* **105** (2022) 155410 [[2112.15559](#)].
- [8] K. Weisenberger, S. Zhao, C. Northe and R. Meyer, *Symmetry-Resolved Entanglement for Excited States and Two Entangling Intervals in AdS_3/CFT_2* , *JHEP* **12** (2021) [[2108.09210](#)].
- [9] S. Zhao, C. Northe and R. Meyer, *Symmetry-Resolved Entanglement in AdS_3/CFT_2 Coupled to $U(1)$ Chern-Simons Theory*, *JHEP* **07** (2021) [[2012.11274](#)].
- [10] A. Bhattacharya, A. Chanda, S. Maulik, C. Northe and S. Roy, *Topological shadows and complexity of islands in multiboundary wormholes*, *JHEP* **02** (2021) 152 [[2010.04134](#)].
- [11] C. Tutschku, F. S. Nogueira, C. Northe, J. van den Brink and E. Hankiewicz, *Temperature and chemical potential dependence of the parity anomaly in quantum anomalous Hall insulators*, *Phys. Rev. B* **102** (2020) 205407 [[2007.11852](#)].
- [12] J. Erdmenger, C. M. Melby-Thompson and C. Northe, *Holographic RG Flows for Kondo-like Impurities*, *JHEP* **05** (2020) 075 [[2001.04991](#)].
- [13] C. Northe, *Interfaces and Information in Gauge/Gravity Duality*, Ph.D. thesis, U. Würzburg (main), 2019.

- [14] R. Abt, J. Erdmenger, M. Gerbershagen, C. M. Melby-Thompson and C. Northe, *Holographic Subregion Complexity from Kinematic Space*, *JHEP* **01** (2019) 012 [[1805.10298](#)].
- [15] R. Abt, J. Erdmenger, H. Hinrichsen, C. M. Melby-Thompson, R. Meyer, C. Northe et al., *Topological Complexity in AdS_3/CFT_2* , *Fortsch. Phys.* **66** (2018) 1800034 [[1710.01327](#)].