

---

# Curriculum Vitæ: Aaron Hofer

## Contact details

Pronouns: he/him/his

Room 223

Max-Planck-Institut für Mathematik

Vivatsgasse 7

53111 Bonn, Germany

[hofer@mpim-bonn.mpg.de](mailto:hofer@mpim-bonn.mpg.de)

<https://aaron-hofer.github.io/>

## Research interests

Mathematical physics, low-dimensional topology, representation theory, (higher) category theory;  
More specifically: topological and conformal field theories, tensor categories, module categories,  
non-semisimple quantum invariants;

## Education

- |                   |   |
|-------------------|---|
| 10/2022 – 09/2025 | PhD in Mathematics, University of Hamburg<br>Grade: summa cum laude<br>thesis: Defects in non-semisimple 3d topological field theory and 2d logarithmic conformal field theory<br>supervisor: <a href="#">Ingo Runkel</a> |
| 10/2019 – 02/2022 | MSc in Physics, University of Vienna<br><a href="#">Vienna Master Class Mathematical Physics</a><br>thesis: TQFTs with additional structure<br>supervisor: <a href="#">Nils Carqueville</a>                               |
| 10/2015 – 08/2018 | BSc in Physics, University of Innsbruck<br>thesis: Phononic excitations of nanoscale solids<br>supervisor: <a href="#">Oriol Romero-Isart</a>   |

## Employment

- |                   |  |
|-------------------|--|
| 10/2025 – 09/2027 | Max Planck Institute for mathematics<br>Postdoctoral Research Fellow                                     |
| 10/2022 – 09/2025 | University of Hamburg and <a href="#">Cluster of Excellence “Quantum Universe”</a><br>Research assistant |

## Preprints and theses

- |               |   |
|---------------|---|
| 2024 November | Simons Lectures on Categorical Symmetries<br>(Notes for David Jordans lecture, with Jonte Gödicke and Anja Švraka),<br>available at <a href="https://arxiv.org/abs/2411.09082">https://arxiv.org/abs/2411.09082</a> |
| 2024 May      | Modular functors from non-semisimple 3d TFTs<br>(with Ingo Runkel), available at <a href="https://arxiv.org/abs/2405.18038">https://arxiv.org/abs/2405.18038</a>  |
| 2022 February | TQFTs with additional structure<br>Master’s thesis, available at <a href="https://theses.univie.ac.at/detail/62030/">https://theses.univie.ac.at/detail/62030/</a>  |

---

## Talks

October 2025	<a href="#">Séminaire de Géométrie et Topologie</a> , Toulouse: CFT/TFT correspondence beyond semisimplicity
October 2025	<a href="#">CFT: Algebraic, Topological, and probabilistic approaches in Conformal Field Theory</a> , Orsay: TFT construction of CFT correlators beyond semisimplicity
December 2024	Creutzig and Meusburger Group Seminar, Erlangen: CFT/TFT correspondence beyond semisimplicity
November 2024	<a href="#">TQFT Club Seminar</a> , Lisbon Online: CFT/TFT correspondence beyond semisimplicity
April 2024	<a href="#">Carqueville group seminar</a> , Vienna: CFT/TFT correspondence beyond semisimplicity
March 2024	<a href="#">Workshop on New Directions in Conformal Field Theory</a> , Hamburg: Modular functors from non-semisimple 3d TFTs
September 2023	<a href="#">QU Day 3 2023</a> , Hamburg: CFT/TFT correspondence beyond semisimplicity
April 2023	<a href="#">Seminar Quantum Physics and Geometry</a> , Hamburg: Topological defects in the 2d Ising CFT
March 2023	<a href="#">Carqueville group seminar</a> , Vienna: Lyubashenko's modular functor via holography
June 2022	Erlangen-Wien-Würzburg Meeting 2022, Würzburg: Closed spin TQFTs in two dimensions

## Teaching experience

Summer term 2025	Exercise classes: Arithmetic for teachers, University of Hamburg
Winter term 2025	Exercise classes: Advanced algebra, University of Hamburg
Winter term 2024	Exercise classes: <a href="#">Mathematik I für Studierende der Geophysik /Ozeanographie, Meteorologie und Physik und der Computing in Science</a> , University of Hamburg
Summer term 2023	Exercise classes: <a href="#">Advanced algebra - homological algebra and representation theory</a> , University of Hamburg
Winter term 2022/23	Exercise classes: <a href="#">Hopf Algebras, quantum groups and topological field theory</a> , University of Hamburg
Winter term 2018/19	Tutor in Theoretical Physics I: Classical Mechanics, University of Innsbruck

## Attended Schools and Conferences

08 – 12.09.2025	<a href="#">The Physics and Mathematics of Boundaries, Impurities, and Defects</a> (School)
12 – 16.05.2025	<a href="#">Conference on "Quantum Topology"</a>
25.10.2024	<a href="#">17th Seminar on Conformal Field Theory</a>
10 – 14.06.2024	<a href="#">Categorical Symmetries in Quantum Field Theories</a> (School)
18 – 22.03.2024	<a href="#">Workshop on New Directions in Conformal Field Theory</a>

---

19.01.2024	16th Seminar on Conformal Field Theory
08 – 10.11.2023	WPC Theoretical Physics Symposium
04 – 08.09.2023	Categorical Symmetries in Quantum Field Theories (School)
14 – 18.08.2023	Higher structures in Functorial Field Theory
19 – 23.06.2023	Hausdorff School: “TQFTs and their connections to representation theory and mathematical physics”
18 – 22.07.2022	Strings 2022 (student volunteer)
03 – 06.09.2020	Vienna Summer School 2020 on Gravitational Quantum Physics

---

## Organisational work

Summer term 2024 – Organiser [Junior “Zentrum für Mathematische Physik” Seminar](#)  
January 2023 – Cluster of Excellence “Quantum Universe” [Research School Student Council](#)

## Awards and prizes

In 2022, I received the [Alfred-Wehrl award](#) for outstanding Master students in theoretical or mathematical physics at the University of Vienna for my Masters’s thesis.