

Jonte Gödicke

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Education

PhD in Mathematics, *University of Hamburg, Germany*

October 2021- August 2025

- Cluster of Excellence Quantum Universe
- Adviser: Tobias Dyckerhoff
- Grade: 1.0 Magna Cum Laude

Master of Science in Mathematical Physics, *University of Hamburg, Germany*

2019-2021

- Master thesis: Examples of derived formal moduli problems
- Adviser: Julian Holstein
- Grade: 1.05

Bachelor of Science in Physics, *University of Hamburg, Germany*

2015-2019

- Bachelor Thesis: Various topics in classical, bosonic, semiclosed string theory
- Advisor: Marco Zagermann
- Grade: 1.04

Abitur, *Gymnasium Osterholz-Scharmbeck, Germany*

2007-2015

- Grade: 1.1

References

Tobias Dyckerhoff, University of Hamburg

Mail: tobias.dyckerhoff@uni-hamburg.de

Quoc P. Ho, The Hong Kong University of Science and Technology

Mail: quoc.ho@ust.hk

Julian Holstein, University of Hamburg

Mail: julian.holstein@uni-hamburg.de

Employment

Max-Planck-Institut for Mathematics Bonn, Postdoc, Mentored by Catharina Stropel

Oktober 2025-2027

University of Hamburg, Ph.D as part of the Excellence Cluster Quantum Universe, from October 2024 affiliated with CRC 1624 "Higher Structures, Moduli Spaces and Integrability"

2021 - 2025

Preprints

The (∞, ∞) -category of spans

Jonte Gödicke, Quoc P. Ho, Walker Stern, <https://arxiv.org/abs/2608.29495>

Content: We characterize the universal mapping-in-property of the (∞, ∞) -category of spans and use it to derive the universal mapping in property for the (∞, n) -categories of spans.

Sphericalization and the Universal Spherical Adjunction

Fernando Abellán, **Jonte Gödicke**, <https://arxiv.org/abs/2605.15037>

Content: We provide a universal construction that inverts the twist and cotwist functor of an adjunction between stable

∞ -categories and use it to explicitly describe the walking spherical adjunction.

An ∞ -category of 2-Segal Spaces

Jonte Gödicke, <https://arxiv.org/abs/2407.13357>

Content: We provide an equivalence between the ∞ -category of algebra objects in ∞ -categories of spans with a subcategory of the ∞ -category of spans of 2-Segal objects.

Simons Lectures on Categorical Symmetries,

Lecture Notes: Applied Cobordism Hypothesis, Lecturer David Jordan

Aaron Hofer, Anja Švraka and **Jonte Gödicke**, <https://arxiv.org/abs/2411.09082>

Content: We provide lecture notes for the lecture "Applied Cobordism Hypothesis" given by David Jordan during the Global Categorical Symmetries School in Les Diableret in September 2023.

Work in Progress

Lax E2-algebras and braided higher categorical Hall algebras

Jonte Gödicke, Quoc P. Ho, Yang Hu, Walker Stern

Content: We classify lax $\mathbb{E}_2$ -algebras in the (∞, ∞) -category of spans and use it to construct braided higher categorical Hall algebras.

Lax Horns and Higher Segal conditions

Fernando Abellán, Tobias Dyckerhoff, **Jonte Gödicke**, Tashi Walde

Content: We provide an $(\infty, 2)$ -categorical characterization of the higher Segal conditions for 2-simplicial stable ∞ -categories in terms of lax horn filling conditions.

Rigid 2-Segal spaces

Jonte Gödicke, <https://www.birs.ca/events/2024/5-day-workshops/24w5266/videos>

Content: We use $(\infty, 2)$ -categorical techniques to classify those 2-Segal spaces that give rise rigid convolution monoidal structures.

Conference Talks

STRATIFYING KIEL: Stratified Spaces from Higher Category Theory to Applied Topology,

September 2026

Kiel University, Title: Constructible 2-Sheaves and applications to Soergel bimodules

Workshop Higher Segal Spaces and their Applications to Algebraic K-Theory, Hall Algebras, and Combinatorics,

January 2024

Banff International Research Station, Title: Rigid 2-Segal Spaces

Global Categorical Symmetries School,

September 2023

Les Diableret, Switzerland, Gong Show Talk, Title: Towards Derived Turaev-Viro Theory

Summer School: Donaldson Thomas Invariants in Derived Symplectic Geometry,

October 2022

Aussois, France, Title: Motivic DT Invariants after Kontsevich Soibelman

Summer School: Irregular Riemann Hilbert Correspondences,

September 2021

Aussois, France, Title: Local Moduli for marked meromorphic flat bundles

Seminar Talks

MPIM Oberseminar

March 2026

Bonn, Title: On the Hall algebra construction

MPIM Higher Structures Seminar,

March 2026

Bonn, Title: On a braided monoidal Hall 2-category

MPIM Higher Structures Seminar, <i>Bonn</i> , Title: Which 2-Segal spaces induce multi-fusion categories?	January 2026
MPIM Topology Seminar, <i>Bonn</i> , Title: The universal Hecke algebroid	October 2025
MPIM Topology Seminar, <i>Bonn</i> , Title: The universal Hecke algebroid	October 2025
QTCat Seminar, <i>Hamburg</i> , Title: The universal braided monoidal Hecke category	May 2025
Algebra and Geometry Seminar, <i>Hong Kong</i> , Title: Multi-fusion categories from 2-Segal spaces	March 2025
Quantum Mathematics Research Seminar, <i>Odense, Denmark</i> , Title: Multi-fusion categories from 2-Segal spaces	December 2024
Higher Structures in Quantum Field Theory Seminar, <i>Munich, Germany</i> , Title: Rigid Hall monoidal structures	May 2024
Algebra and Topology Seminar, <i>Kopenhagen, Denmark</i> , Title: Which 2-Segal objects are rigid?	May 2024
Higher Structure Seminar, <i>Hamburg, Germany</i> , Title: Rigid 2-Segal spaces	November 2023
Higher Structure Seminar, <i>Hamburg, Germany</i> , Title: Introduction to the Cobordism Hypothesis	November 2023
Higher Structure Seminar, <i>Hamburg, Germany</i> , Title: Symplectic Cohomology	May 2023
ZMP Seminar, <i>Hamburg, Germany</i> , Title: Categorification of Cluster algebras, with Merlin Christ	January 2022
Higher Structure Seminar, <i>Hamburg, Germany</i> , Title: Classical Hall Algebras	April 2021
Higher Structure Seminar, <i>Hamburg, Germany</i> , Title: Algebraic Stacks	May 2020
Higher Structure Seminar, <i>Hamburg, Germany</i> , Title: Deformation of Singularities	December 2019

Organized Events

Question Seminar, <i>MPIM Bonn, Germany</i> , Organized with Fernando Abellán, Qingyuan Bai and Fabio Neugebauer	Summersemester 2026
Live Stream of the lecture by Prof. Dr. Denis-Charles Cisinski about Formalization of Higher Category Theory, <i>Hamburg, Germany</i> Organized with Jonas Linssen and Markus Zetto	Fall 2023
Mini Workshop on Higher Categorical Methods in Algebra and Geometry, <i>Hamburg, Germany</i> Co-Organizer with Tobias Dyckerhoff, Matthew Habermann, and Angus Rush	March 2023
PhD Pizza Seminar, <i>Hamburg, Germany</i> Organized with Angus Rush, David Jaklitsch, Thomas Stempfhuber and Aaron Hofer	April 2022 - Fall 2023

Teaching Experience

Tutor Linear Algebra 2	Spring 2025
Tutor for Linear Algebra 1	Fall 2024
Tutor for Linear Algebra 1	Fall 2022
Tutor for Algebraic Topology 2	Spring 2022
Tutor for Mathematics for Physicists 3	Fall 2021
Student Tutor for Mathematics for Physicists 4	Spring 2021
Student Tutor for Algebra	Fall 2020
Student Tutor for Mathematics for Physicists 4	Spring 2020
Student Tutor for Mathematics for Physicists 3	Fall 2019
Student Tutor for Mathematics for Physicists 4	Spring 2019
Student Tutor for Mathematics for Physicists 3	Fall 2018
Student Tutor for Mathematics for Physicists 2	Spring 2018
Student Tutor for Theoretical Physics 2	Spring 2018
Student Tutor for Mathematics for Physicists 1	Fall 2017
Student Tutor for Theoretical Physics 1	Fall 2017
Student Tutor for Experimental Physics 2	Spring 2017

Soft Skill Courses

Hamburg Research Academy: How to Advance Your Research Career and Get Funding	July 2024
PIER Desy Academic Writing Course	April-June 2024

Further attended Mathematical Events

CATS 8 - A conference in honour of Gabriele Vezzosi's 60th birthday <i>L'Oreon, France</i>	September 2026
Confernece and School, Higher Structures: Recent developments and applications <i>Hamburg, Germany</i>	September 2025
Conference Higher Structures in Functorial Field Theories, <i>Regensburg, Germany</i>	August 2023
Hausdorff School: TQFT and their connections to Representation theory and Mathematical Physics, <i>Bonn, Germany</i>	June 2023
School: Finiteness Conjecture for Skein modules, <i>Matemale, France</i>	May 2022
Online Seminar: Champs et Homotopie en Géoemétrie algébrique, <i>Toulouse, France</i>	Januar-May 2021
String Theory Steilkurs, <i>Hamburg, Germany</i>	April 2018

Language

German Native speaker

English, Fluently

Latin, Advanced certificate

French, Beginner