JOHANNES HORN
CURRICULUM VITAE

CONTACTS

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ACADEMIC CAREER

June 2021 - July 2025	Postdoc, University of Frankfurt, DFG-Collaborative Research Centre TRR 326 *Geometry and Arithmetic of Uniformized Structures*, project number 444845124.
Oct. 2020 - May 2021	Postdoc, University of Frankfurt, DFG-grant MO 1884/2-1 *Klassifikation von Teichmüllerkurven*.
Oct. 2020	Completion of Doctorate, Thesis *Singular fibers of Hitchin systems*, Karl-Ruprechts Universität Heidelberg, magna cum laude. Supervision: Prof. Dr. Anna Wienhard, Dr. Daniele Alessandrini.
Oct. 2019 - Oct. 2020	Graduate Student, Heidelberg Institute for Theoretical Studies, Research Group *Groups and Geometry*.
Aug. 2019 - Oct. 2019	Graduate Internship in Research Program *Holomorphic Differentials in Mathematics and Physics*, MSRI, Berkeley.
Feb. 2019 - Mar. 2019	Graduate Internship with Dr. Brian Collier, University of Maryland, College Park.
Oct. 2016 - Oct. 2019	Graduate Student, RTG 2229 *Asymptotic Invariants and Limits of Groups and Spaces*, University of Heidelberg.
Apr. 2015 - Oct. 2016	Master of Science Mathematics, University of Stuttgart. Thesis *Limiting Configurations from a Hermitian Point of View*, grade 1,3.
Oct. 2012 - May 2015	Bachelor of Science Mathematics, University of Stuttgart. Thesis *The Orthogonal Group in Characteristic 2*, grade 1,0.
Oct. 2011- Sept. 2012	Studies for Secondary School Teaching in mathematics, politics and economics, University of Stuttgart.
June 2009	Abitur, Ellental-Gymnasium Bietigheim-Bissingen.

Publications and Preprints

4. (with Johannes Schwab) Visible Lagrangians for Hitchin systems and pillowcase covers, 2023, arxiv:2310.15716.

3. (with Martin Möller) Compactifying the rank two Hitchin system via spectral data on semistable curves, 2022, to appear in Algebraic Geometry, eprint.

2. $\mathfrak{sl}(2)$-type singular fibres of the symplectic and odd orthogonal Hitchin system, Journal of Topology, Vol. 15, Iss. 1 2022, eprint.

1. Semi-abelian spectral data for singular fibers of the $SL(2, \mathbb{C})$-Hitchin system, Int. Math. Res. Not. (10) 2020, ISSN 1073-7928, eprint.

Invited Talks

Nov. 2023	"From Lagrangians in Hitchin systems to pillowcase covers", Geometrieseminar, Universität Heidelberg.
Aug. 2023	"Visibile Lagrangians and square-tiled surfaces", VBAC - Recent applications to the geometry of moduli spaces (contributed talk), Universität Duisburg-Essen.
June 2022	"Singular Hitchin fibers via Hecke modifications and abelianisation", Geometric structures (re)united (contributed talk), University of Illinois at Chicago.
May 2022	"Resolving rank 2 spectral covers by semi-stable curves", Essener Seminar für algebraische Geometrie und Arithmetik, Universität Duisburg-Essen.
Feb. 2022	"Resolving the rank 2 Hitchin system by compactified Jacobians of semi-stable curves", Geometria em Lisboa, Lisbon.
Dec. 2021	"Compactifying the GL(2,C)-Hitchin system on the space of quadratic multi-scale differentials", Workshop: Higgs bundles at infinity, Karl-Albrechts-Universität zu Kiel.
Nov. 2021	"A modified Hitchin base using quadratic multi-scale differentials", Geometry and Topology Seminar, Universidade do Porto.
Feb. 2021	"Spectral data for singular Hitchin fibers and asymptotic solutions to the Hitchin equation", Complex Analysis Seminar, Freie Universität Berlin.
Jan. 2021	"Singular fibers of the symplectic and odd orthogonal Hitchin system", Geometry and Topology seminar, Universidade do Porto.
Mar. 2020	"Singular fibers of Hitchin integrable systems", Geometry-Topology Seminar, University of Maryland, College Park.
Feb. 2020	"Singular fibers of Hitchin integrable systems", Seminar Symplectic Geometry, Gauge Theory and Categorification, Columbia University, New York.
Nov. 2018	"Limiting configurations on the singular locus of the Hitchin map", Oberseminar Geometrie, Karl-Albrechts-Universität zu Kiel.

SERVICE AND TEACHING

Sept 24	Coorganization of workshop *Ramification in geometric Langlands and non-abelian Hodge theory* (joint with Andreas Hohl, Judith Ludwig, Konstantin Jakob, Timo Richarz), Unviersity of Heidelberg, [webpage]().
WS 23 - ST 24	Representative of scientific staff (non-factulty) in faculty council, University of Frankfurt.
ST 22 - ST 23	Coorganization of Workshop series *Geometry of coherent sheaves: From derived categories to Higgs bundles* (joint with Barbara Bolognese and Inder Kaur), University of Frankfurt, [webpage]().

WT 23/24	Colecturing of master course *Liegruppen und algebraische Gruppen* (joint with Martin Möller), University of Frankfurt, [webpage]().
WT 22 - ST 24	Lecturing and organization of precourse for first year students of Bachelor mathematics and mathematics teacher students, University of Frankfurt, [webpage]().
ST 21	Organisation of Darmstadt-Frankfurt seminar on *The P=W conjecture*, [webpage]().
ST 17 - ST 20	Teaching Assistance and tutoring in advanced courses *Geometric Group Theory*, *Differential Geometry 2: Symmetric Spaces*, *Thermodynamic formalism*, University of Heidelberg.
WT 13 - ST 16	Tutoring in courses *Analysis 1*, *Linear Algebra and analytic Geometry 1*, *Linear Algebra and Analytic Geometry 2*, *Geometry*, University of Stuttgart.

(ST: Summer Term, WT: Winter Term)