
Positions

September 2024 – August 2026 Postdoctoral Researcher	Marie Skłodowska-Curie Individual Fellow (MSCA), Department of Physics, University of Uppsala & Harvard University
September 2021 – August 2024 Postdoctoral Researcher	Simons Collaboration on Special Holonomy in Geometry, Analysis, and Physics, Department of Physics, University of Pennsylvania

Education

October 2017 – August 2021	DPhil Mathematics, University of Oxford Advisor: Professor Sakura Schäfer-Nameki Thesis: Higgs Bundles for 4d $\mathcal{N} = 1$ Gauge Theories
October 2016 – September 2017	MASt Applied Mathematics, University of Cambridge Advisor: Professor David Skinner Thesis: Partition Functions of 2d Yang-Mills Theory
October 2013 – September 2016	BSc Mathematical Physics, University of Würzburg Advisor: Professor Ansgar Denner Thesis: $H \rightarrow 2\gamma$ in the Two-Higgs-Doublet Model

Grants and Scholarships

September 2024 – August 2026	Marie Skłodowska-Curie Individual Grant (206,887.68 EUR)
September 2020 – August 2021	Doctoral scholarship of the Oxford Mathematical Institute
September 2017 – August 2020	Doctoral scholarship of the Studienstiftung des Deutschen Volkes (SDV)
September 2013 – August 2017	Deutschlandstipendium, Max Weber-Programm Scholarship, Undergraduate Scholarship of the SDV, Master Studies Abroad Scholarship of the SDV, DAAD Scholarship

Preprints and Publications¹

23. M. Cvetič, R. Donagi, J. J. Heckman, M. Hübner, *Extra-Dimensional η -Invariants and Anomaly Theories*, [2512.17906].
22. J. J. Heckman, M. Hübner, C. Murdia, *Symmetry Theories, Wigner's Function, Compactification, and Holography*, Phys. Rev. D 113 no. 2 (2026), [2505.23887].
21. N. Braeger, V. Chakrabhavi, J. J. Heckman, M. Hübner, *Generalized Symmetries of Non-SUSY and Discrete Torsion String Backgrounds*, SciPost Phys. 19 (2025) 160 [2504.10484].
20. J. J. Heckman, M. Hübner, C. Murdia, *On the Holographic Dual of a Symmetry Operator at Finite Temperature*, Phys. Rev. D 112 no. 12 (2025) 126010, [2503.16427].
19. M. Cvetič, J. J. Heckman, M. Hübner, C. Murdia, *Metric Isometries, Holography, and Continuous Symmetry Operators*, Phys. Rev. D 112 no. 10 (2025) 106020, [2501.17911].

¹Authors are ordered alphabetically, following a widely established practice within the HEP-TH community. ArXiv numbers take the form [YYMM.XXXXX] with YY and MM respectively indicating the year and month of the arXiv upload.

18. M. Cvetič, R. Donagi, J. J. Heckman, M. Hübner, E. Torres, *Cornering Relative Symmetry Theories*, Phys. Rev. D 111 no. 8 (2025), 085026, [2408.12600].
17. J. J. Heckman, M. Hübner, *Celestial Topology, Symmetry Theories, and Evidence for a Non-SUSY D3-Brane CFT*, Fortsch.Phys. 73 (2025) 4, 2400270, [2406.08485].
16. N. Braeger, V. Chakrabhavi, J. J. Heckman, M. Hübner, *Generalized Symmetries of Non-Supersymmetric Orbifolds*, Phys. Rev. D 111 no. 6 (2025), 066015, [2404.17639].
15. J. J. Heckman, M. Hübner, C. Murdia, *On the Holographic Dual of a Topological Symmetry Operator*, Phys. Rev. D 110 no. 4 (2024) 046007, [2401.09538].
14. F. Baume, J. J. Heckman, M. Hübner, E. Torres, A. P. Turner, X. Yu, *SymTrees and Multi-Sector QFTs*, Phys. Rev. D 109 no. 10 (2023) 106013, [2310.12980].
13. M. Cvetič, J. J. Heckman, M. Hübner, E. Torres, *Generalized Symmetries, Gravity and the Swampland*, Phys. Rev. D 109 no. 4 (2023) 026012, [2307.13027].
12. M. Cvetič, J. J. Heckman, M. Hübner, E. Torres, *Fluxbranes, Generalized Symmetries, and Verlinde's Metastable Monopole*, Phys. Rev. D 109 no. 4 (2023) 046007, [2305.09665].
11. B. Acharya, M. Del Zotto, J. J. Heckman, M. Hübner, E. Torres, *Junctions, Edge Modes, and G_2 -Holonomy Orbifolds*, [2304.03300].
10. J. J. Heckman, M. Hübner, E. Torres, X. Yu, H. Y. Zhang, *Top Down Approach to Topological Duality Defects*, Phys. Rev. D 108 no. 4 (2023) 046015, [2212.09743].
9. J. J. Heckman, M. Hübner, E. Torres, H. Y. Zhang, *The Branes Behind Topological Symmetry Operators*, Fortsch. Phys. 71 (2023) 1, 2200180, [2209.03343].
8. M. Cvetič, J. J. Heckman, M. Hübner, E. Torres, *0-Form, 1-Form and 2-Group Symmetries via Cutting and Gluing of Orbifolds*, Phys. Rev. D 106 no. 10 (2022) 106003 [2203.10102].
7. M. Hübner, D. R. Morrison, S. Schäfer-Nameki, Y. Wang, *Generalized Symmetries in F-theory and the Topology of Elliptic Fibrations*, SciPost Phys. 13 (2022) 030, [2203.10022].
6. S. Giacomelli, L. Bhardwaj, M. Hübner and S. Schäfer-Nameki, *Relative Defects in Relative Theories: Trapped Higher-Form Symmetries and Irregular Punctures in Class S*, SciPost Phys. 13 (2022) 101 [2201.00018].
5. L. Bhardwaj, M. Hübner and S. Schäfer-Nameki, *Liberating Confinement from Lagrangians: 1-form Symmetries and Lines in $4d \mathcal{N} = 1$ from $6d \mathcal{N} = (2, 0)$* , SciPost Phys. 12 (2022) 040 [2106.10265].
4. L. Bhardwaj, M. Hübner and S. Schäfer-Nameki, *1-form Symmetries of $4d \mathcal{N}=2$ Class S Theories*, (2021), SciPost Phys. 11 (2021) 096 [2102.01693].
3. M. Hübner, *Local G_2 -manifolds, Higgs Bundles and a Colored Quantum Mechanics*, JHEP 05 (2021) 002 [2009.07136].
2. M. Hübner, *5d SCFTs from (E_n, E_m) Conformal Matter*, JHEP 12 (2020) 014 [2006.01694].
1. A. P. Braun, S. Cizel, M. Hübner and S. Schäfer-Nameki, *Higgs Bundles for M-theory on G_2 -Manifolds*, JHEP 03 (2018) 199 [1812.06072].

Presentations (Conferences and Seminars)

51. 02/26, Geometry and Quantum Theory Seminar
Harvard CMSA, Cambridge, USA
50. 02/26, Generalized Symmetries and Defects in QFT and Gravity, Aspen Center for Physics, Aspen, USA
49. 11/25, Leinweber Seminar
Kadanoff Center, Chicago, USA
48. 09/25, Geometry and Quantum Theory Seminar
Harvard CMSA, Cambridge, USA
47. 09/25, QFT and Physical Mathematics Seminar
Harvard CMSA, Cambridge, USA
46. 09/25, CMSA Member Seminar
Harvard CMSA, Cambridge, USA
45. 09/25, Swampland Seminar
Harvard, Cambridge, USA
44. 08/25, Quantum Theories of Fields, Matter, and Strings Seminar, Online, METU, Turkey
43. 06/25, Generalized Symmetries in HEP and CM
Peking University, Beijing, China
42. 06/25, Mini-Workshop on Categorical Symmetries
Peking University, Beijing, China
41. 05/25, Joint Uppsala / NORDITA Seminar
NORDITA, Stockholm, Sweden
40. 03/25, High Energy Theory Seminar
Durham University, Durham, UK
39. 02/25, High Energy Theory Seminar
CERN, Geneva, Switzerland
38. 01/25, High Energy Theory Seminar
University of Pennsylvania, Philadelphia, USA
37. 01/25, CMSA Workshop on Symmetries and Gravity
CMSA, Harvard, Cambridge, USA
36. 11/24, High Energy Theory Seminar
University of Kyushu, Fukuoka, Japan
35. 11/24 High Energy Theory Seminar
University of Tokyo, Tokyo, Japan
34. 11/24, High Energy Theory Seminar
IPMU, Tokyo, Japan
33. 11/24, 9th IBS-IFT joint workshop: Dark World to Swampland 2024, IBS, Daejeon, Korea
32. 11/24 High Energy Theory Seminar
KAIST, Daejeon, Korea
31. 11/24 High Energy Theory Seminar
KIAS, Seoul, Korea
30. 10/24, 33rd Nordic Network Meeting on Strings, Fields and Branes, NORDITA, Stockholm, Sweden
29. 10/24, Center for Physics and Geometry Series
Uppsala University, Uppsala, Sweden
28. 06/24, Geometries and Symmetries of SCFTs
MITP, Mainz, Germany
27. 06/24, MPI Seminar,
Max-Planck-Institut, Leipzig, Germany
26. 05/24, Swamplandia 2024
Kloster Seeon, LMU Munich, Germany
25. 02/24, Swampland Seminar
Online, Harvard University / CERN / IFT Madrid
24. 02/24, Quiver Meeting
Online, Oxford University, UK
23. 02/24, Symmetry Seminar
Online, Oxford University, UK
22. 10/23, High Energy Theory Seminar
Johns Hopkins University, USA
21. 10/23, Harvard Swampland Initiative
Harvard University, USA
20. 09/23, High Energy Theory Seminar
Texas A&M, USA
19. 08/23, Categorical Aspects of Symmetries
NORDITA, Sweden
18. 07/23, High Energy Theory Seminar
KIAS, South Korea
17. 07/23, String Phenomenology 2023, Parallel Session
IBS, South Korea
16. 06/23, High Energy Theory Seminar
KAIST, South Korea
15. 05/23, The Geometry, Algebra, and Physics of Higgs Bundles, University of British Columbia, Canada
14. 04/23, Southeastern Regional Mathematical String Theory Meeting, Virginia Tech, United States
13. 03/23, Physics and Special Holonomy
UC Santa Barbara, United States
12. 03/23, Geometry and Strings 2023
University of Pennsylvania, United States
11. 11/22, High Energy Theory Seminar
Northeastern University, United States
10. 09/22, Simons Collaboration for Special Holonomy in Geometry, Analysis and Physics: Progress and Open Problems, SCGP, United States
9. 09/22, Simons Collaboration for Special Holonomy in Geometry, Analysis and Physics: Annual Meeting, Flatiron Institute, United States
8. 06/22, Geometry, Topology and Singular Special Holonomy Spaces, University of Freiburg, Germany
7. 06/22, Quiver Meeting
Imperial College London, England
6. 02/22, Geometrization of (S)QFTs in $D \leq 6$
Aspen Center for Physics, United States
5. 09/21, High Energy Theory Seminar
University of Pennsylvania, United States
4. 09/21, Simons Collaboration for Special Holonomy in Geometry, Analysis and Physics: Progress and Open Problems, SCGP, United States
3. 12/20, Seminar Series on String Phenomenology
Online Seminar
2. 12/20, High Energy Theory Seminar
Online, University of London City, England
1. 08/20 GLSMs – 2020
Online, Virginia Tech, United States

Organization

Mai 2026	Co-organizer for Geometry and Strings (Conference), Uppsala University
September 2025 – March 2026	Co-organizer for CMSA Differential Geometry and Physics Seminar, Harvard University
September 2022 – August 2024	Co-organizer for High Energy Theory Seminar Series, University of Pennsylvania
March 2023	Co-organizer for Simons Collaboration meeting: Physics and Special Holonomy (Conference), UC Santa Barbara
March 2023	Co-organizer for Geometry and Strings (Conference), University of Pennsylvania
September 2019	Co-organizer for Geometry and Strings (Conference), University of Oxford

Supervision

September 2024 – Current	Co-supervision, Uppsala University Graduate Student: Daniele Migliorati
September 2023 – August 2024	Co-supervision, University of Pennsylvania Graduate Students: Noah Braeger, Vivek Chakrabhavi
June 2019 – July 2019	Co-supervision, Summer Studentship Mathematics Oxford, Undergraduate Student: Andrea Rotaru

Reviewing Activities

Referee for SciPost Physics, Referee for JHEP

Outreach

February 2025 (length: 1 week)	Workshop Supervisor & Organizer, Roggenburg, Winter Academy of the Studienstiftung des Deutschen Volkes
September 2024 – Present	Mentor for the Mentoring program @ String community

Teaching

Shanghai Institute for Mathematics and Interdisciplinary Sciences (SIMIS)

June 2025 Minicourse on Symmetries in Geometric Engineering and Holography

University of Pennsylvania

Summer Term 2024 General Relativity

University of Oxford

Trinity Term 2021 Revision Classes (Dynamics, Metric Spaces, Complex Analysis)

Hilary Term 2021 Dynamics, Multivariable Calculus

Trinity Term 2020 Special Relativity, Revision Classes (Dynamics)

Hilary Term 2019 Dynamics

Trinity Term 2019 Special Relativity, Revision Classes (Dynamics)

Hilary Term 2019 Dynamics

Trinity Term 2018 Conformal Field Theory, Revision Classes (Dynamics)

Hilary Term 2018 Dynamics