

Viktor Frederik Majewski

Homepage <https://viktormajewski.github.io/index.html>

Curriculum Vitae

Research Interest

- Differential Geometry** gauge theory, moduli problems in differential geometry, special holonomy spaces, special (higher) geometric structures, symplectic geometry
- Algebraic Geometry** (derived) C^∞ -geometry, categorification of geometry, homological algebra, moduli problems in algebraic geometry
- Analysis** Fredholm theories for elliptic operators on singular and non-compact spaces, geometric measure theory
- Physics** axiomatic approaches to quantum field theories, String-, M- and F-theory, general relativity

Education

- 2026–2028 **PostDoc**, *University of Waterloo*, Waterloo, affiliated with Prof. Spiro Karigiannis
- Oct.–Dec. 2025 **Research Stay**, *University of Hamburg*, Hamburg, invited by Prof. Shubham Dwivedi
- Aug.–Nov. 2024 **Research Stay**, *Simons Laufer Mathematical Science Institute (MSRI)*, Berkeley, invited by Prof. Jason Lotay
- Semester Program:** Special Geometric Structures and Analysis
- 2022–2025 **PhD in Mathematics (summa cum laude)**, *Humboldt-University*, Berlin, supervised by Prof. Thomas
- Title:** Dirac Operators on Orbifold Resolutions and their Application to the Construction of Exceptional Holonomy Metrics
- 2019–2022 **Master of Science Mathematics (with distinction)**, *Georg-August-University*, Göttingen, supervised by Prof. Victor Pidstrygach
- Title:** Topologically Twisted Super Field and Generalised Seiberg-Witten Theories
- 2017–2019 **Bachelor of Science Mathematics**, *Georg-August-University*, Göttingen, supervised by Prof. Victor Pidstrygach
- Title:** Hyperkähler Geometry of Nilpotent Lie Groups and Twistor Spaces
- 2016–2021 **Bachelor of Science Physics**, *Georg-August-University*, Göttingen, supervised by Prof. Dorothea Bahns
- Title:** $\mathcal{N} = 4$ Super Yang-Mills Theory as a Super Twistor String Theory

Fellowship

- 2022–2025 **BMS Scholarship Recipient**, *Berlin Mathematical School*, Berlin

Teaching

- 2021 **Teaching Assistant**, *Georg-August-University*, Göttingen
- Tutor for the course *Mathematics for Physicists II* by Prof. Dr. Ralf Meyer

- 2020–2021 **Teaching Assistant**, *Georg-August-University, Göttingen*
Tutor for the course *Differential Geometry and Gauge Theory I* by Prof. Dr. Victor Pidstrygach
- 2020 **Teaching Assistant**, *Georg-August-University, Göttingen*
Tutor for the course *Analysis II* by Prof. Dr. Dorothea Bahns
- 2019–2020 **Teaching Assistant**, *Georg-August-University, Göttingen*
Tutor for the course *Analysis I* by Prof. Dr. Dorothea Bahns

Publications and Preprints

- 2025 **Dirac Operators on Orbifold Resolutions: Uniform Elliptic Theory**, *arXiv:2503.08395*

Work in Progress

- 2025 **Resolutions of $\text{Spin}(7)$ -Orbifolds**, (*expected*)
- 2025 **Singular $\text{Spin}(7)$ -Orbifold Resolutions**, (*expected*), joint-work with T.Langlais (Oxford University)
- 2025 **Higher Degree Pluripotential Theory**, (*expected*), joint work with S.Karigiannis, T.Pacini, et al

Social Engagement

- 2022–2023 **Student Representative**, *Berlin Mathematical School*, Berlin

Invited Talks

- Mai. 2025 **University of Regensburg**, *Dirac Operators on Orbifold Resolutions*
- Apr. 2025 **University of Stony Brook**, *Dirac Operators on Orbifold Resolutions*
- Dec. 2024 **Georg-August University Göttingen**, *$\text{Spin}(7)$ -Orbifold Resolutions*
- Oct. 2024 **University Waterloo**, *$\text{Spin}(7)$ -Orbifold Resolutions*
- Oct. 2024 **Simons Laufer Mathematical Sciences Institute (MSRI)**, *Dirac Operators on Orbifold Resolutions*
- May 2024 **Duke University**, *$\text{Spin}(7)$ -Orbifold Resolutions*, Simons Collaboration on Special Holonomy in Geometry, Analysis and Physics-Meeting
- Feb. 2024 **Technical University of Berlin**, *$\text{Spin}(7)$ -Orbifold Resolutions*, BMS Student Conference

References

Prof. Dr. Thomas Walpuski (PhD Supervisor), *Humboldt University of Berlin*, thomas.walpuski@hu-berlin.de

Prof. Dr. Jason Lotay, *University of Oxford*, jason.lotay@maths.ox.ac.uk

Prof. Dr. Spiro Karigiannis, *University of Waterloo*, karigiannis@uwaterloo.ca

Prof. Dr. Victor Pidstrygach (Master/Bachelor Supervisor), *Georg-August-University Göttingen*, Victor.Pidstrygach@mathematik.uni-goettingen.de