

Aniket Sen

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Google Scholar: <https://scholar.google.com/citations?user=F0-Umy4AAAAJ&hl=en>

Education

- **Ph.D. in Physics**, University of Bonn, Germany (2021–2025)
 - Thesis: “Transverse Momentum Dependent Parton Distribution Functions from Twisted Mass Lattice QCD”
 - Advisor: Prof. Dr. Carsten Urbach
 - **M.Sc. in Physics**, University of Bonn, Germany (2019–2021)
 - Thesis: “Nuclear parity violation from 4-quark operators”
 - Advisor: Prof. Dr. Carsten Urbach
 - **B.Sc. in Physics, Mathematics and Computer Science**, St. Joseph’s College (Autonomous), Bangalore University, India (2016–2019)
 - Thesis: “Far-Infrared-Radio correlation in AGN hosting blue early-type galaxies”
 - Advisor: Dr. Amitesh Omar (ARIES, Nainital, India)
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Work Experience

- **Postdoctoral Researcher**, Helmholtz-Institut für Strahlen- und Kernphysik, University of Bonn, Germany (2024 – Present)
 - Research focus: develop an open-source software framework for efficient and scalable numerical simulations in Lattice Field Theory
 - **Graduate Research Assistant**, University of Bonn, Germany (2021 – 2024)
 - **Graduate Teaching Assistant**, University of Bonn, Germany (2020 – 2021)
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Teaching Experience

- Quantum Computing (WS 2020/21, WS 2021/22, SS 2023)
 - Lattice QCD (SS 2021)
 - Theoretische Physik 4: Statistische Physik (WS 2022/23)
 - Computational Physics (WS 2023/24)
 - High Performance Computing (Masters Course in Computer Science, WS 2025/26)
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Publications

- [1] Constantia Alexandrou, Simone Bacchio, Krzysztof Cichy, Martha Constantinou, Aniket Sen, Gregoris Spanoudes, Fernanda Steffens, and Jacopo Tarello. “Collins-Soper kernel and reduced soft function in lattice QCD”. In: *Phys. Rev. D* 113.7 (2026), p. 074506. DOI: [10.1103/5wft-9rtd](https://doi.org/10.1103/5wft-9rtd). arXiv: [2509.26316](https://arxiv.org/abs/2509.26316) [[hep-lat](#)].
- [2] Nicholas Kluge Corrêa, Aniket Sen, Sophia Falk, and Shiza Fatimah. “Tucano: Advancing neural text generation for Portuguese”. In: *Patterns* 6.11 (Nov. 2025). ISSN: 2666-3899. DOI: [10.1016/j.patter.2025.101325](https://doi.org/10.1016/j.patter.2025.101325). URL: <https://doi.org/10.1016/j.patter.2025.101325>.
- [3] Johann Ostmeier, Aniket Sen, and Carsten Urbach. “On the equivalence of Prony and Lanczos methods for Euclidean correlation functions”. In: *Eur. Phys. J. A* 61.2 (2025), p. 26. DOI: [10.1140/epja/s10050-025-01495-8](https://doi.org/10.1140/epja/s10050-025-01495-8). arXiv: [2411.14981](https://arxiv.org/abs/2411.14981) [[hep-lat](#)].
- [4] Nicholas Kluge Corrêa, Sophia Falk, Shiza Fatimah, Aniket Sen, and Nythamar De Oliveira. “TeenyTinyLlama: Open-source tiny language models trained in Brazilian Portuguese”. In: *Machine Learning with Applications* 16 (2024), p. 100558. ISSN: 2666-8270. DOI: <https://doi.org/10.1016/j.mlwa.2024.100558>. URL: <https://www.sciencedirect.com/science/article/pii/S2666827024000343>.
- [5] Marcus Petschlies, Nikolas Schlage, Aniket Sen, and Carsten Urbach. “Exploring a new approach to hadronic parity violation from lattice QCD”. In: *Eur. Phys. J. A* 60.1 (2024), p. 9. DOI: [10.1140/epja/s10050-023-01208-z](https://doi.org/10.1140/epja/s10050-023-01208-z). arXiv: [2306.03211](https://arxiv.org/abs/2306.03211) [[hep-lat](#)].
- [6] Constantia Alexandrou, Simone Bacchio, Krzysztof Cichy, Martha Constantinou, Xu Feng, Karl Jansen, Chuan Liu, Aniket Sen, Gregoris Spanoudes, Fernanda Steffens, and Jacopo Tarello. “Nonperturbative renormalization of asymmetric staple-shaped operators in twisted mass lattice QCD”. In: *Phys. Rev. D* 108.11 (2023), p. 114503. DOI: [10.1103/PhysRevD.108.114503](https://doi.org/10.1103/PhysRevD.108.114503). arXiv: [2305.11824](https://arxiv.org/abs/2305.11824) [[hep-lat](#)].

Grants

- **Polyglot** - a project funded by the Federal Ministry of Education and Research (BMBF) and the Ministry of Culture and Science of the State of North Rhine-Westphalia (MWK) as part of TRA Sustainable Futures (University of Bonn) (Role: Co-Principal Investigator, 2025-2026)
 - Co-organized the “[Polyglot Workshop](#)” (09 - 13 March 2026) at the University of Bonn
- Multiple GCS/NIC computing grants totalling more than 15 million core hours on the supercomputers at the Jülich Supercomputing Centre (JSC)

References

- Prof. Dr. Carsten Urbach, University of Bonn, Germany - urbach@hiskp.uni-bonn.de
- Dr. Bartosz Kostrzewa, University of Bonn, Germany - kostrzewa@hiskp.uni-bonn.de
- Prof. Dr. Constantia Alexandrou, University of Cyprus, Cyprus - alexandrou.constantia@ucy.ac.cy