

# Diandian Wang

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## EDUCATION

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- 09/2023 - Present **Harvard University** Boston, USA  
Postdoctoral research fellow (High Energy Theory)  
Research advisor: Andrew Strominger
- 09/2018 - 08/2023 **University of California, Santa Barbara** Santa Barbara, USA  
PhD (High Energy Theory)  
Research advisor: Gary Horowitz
- 09/2017 - 06/2018 **Trinity College & DAMTP, Cambridge University** Cambridge, UK  
MMath (Part III Maths)  
Degree class: Distinction (GPA-equivalent: 4.0/4.0)
- 09/2014 - 06/2017 **Trinity College, Cambridge University** Cambridge, UK  
BA (Natural Sciences)  
Degree class: First (GPA-equivalent: 4.0/4.0)

## PUBLICATIONS

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- [1] **Diandian Wang**, Zhencheng Wang, and Zixia Wei. “Wormholes with Ends of the World”. In: (Apr. 2025). arXiv: [2504.12278 \[hep-th\]](#).
- [2] **Diandian Wang** and Zi-Yue Wang. “Higher-spin localized shocks”. In: (Sept. 2024). arXiv: [2409.19785 \[hep-th\]](#).
- [3] Gary T. Horowitz, **Diandian Wang**, and Xiaohua Ye. “New energy inequality in AdS spacetimes”. In: *Phys. Rev. D* 110.6 (2024), p. 064015. DOI: [10.1103/PhysRevD.110.064015](#). arXiv: [2406.13068 \[gr-qc\]](#).
- [4] Sirui Ning, **Diandian Wang**, and Zi-Yue Wang. “Pole skipping in holographic theories with gauge and fermionic fields”. In: *JHEP* 12 (2023), p. 084. DOI: [10.1007/JHEP12\(2023\)084](#). arXiv: [2308.08191 \[hep-th\]](#).
- [5] Xi Dong, Grant N. Remmen, **Diandian Wang**, Wayne W. Weng, and Chih-Hung Wu. “Holographic entanglement from the UV to the IR”. In: *JHEP* 11 (2023), p. 207. DOI: [10.1007/JHEP11\(2023\)207](#). arXiv: [2308.07952 \[hep-th\]](#).
- [6] Lecheng Ren, Anders Schreiber, Atul Sharma, and **Diandian Wang**. “All-order celestial OPE from on-shell recursion”. In: *JHEP* 10 (2023), p. 080. DOI: [10.1007/JHEP10\(2023\)080](#). arXiv: [2305.11851 \[hep-th\]](#).
- [7] **Diandian Wang** and Zi-Yue Wang. “Pole Skipping in Holographic Theories with Bosonic Fields”. In: *Phys. Rev. Lett.* 129.23 (2022), p. 231603. DOI: [10.1103/PhysRevLett.129.231603](#). arXiv: [2208.01047 \[hep-th\]](#).
- [8] Gary T. Horowitz, **Diandian Wang**, and Xiaohua Ye. “An infinity of black holes”. In: *Class. Quant. Grav.* 39.22 (2022), p. 225014. DOI: [10.1088/1361-6382/ac994b](#). arXiv: [2206.08944 \[hep-th\]](#).

- [9] Xi Dong, **Diandian Wang**, Wayne W. Weng, and Chih-Hung Wu. “A Tale of Two Butterflies: An Exact Equivalence in Higher-Derivative Gravity”. In: *JHEP* 10 (2022), p. 009. DOI: [10.1007/JHEP10\(2022\)009](https://doi.org/10.1007/JHEP10(2022)009). arXiv: [2203.06189](https://arxiv.org/abs/2203.06189) [hep-th].
- [10] Sergio Hernández-Cuenca, Gary T. Horowitz, Gabriel Treviño, and **Diandian Wang**. “Boundary Causality Violating Metrics in Holography”. In: *Phys. Rev. Lett.* 127.8 (2021), p. 8. DOI: [10.1103/PhysRevLett.127.081603](https://doi.org/10.1103/PhysRevLett.127.081603). arXiv: [2103.05014](https://arxiv.org/abs/2103.05014) [hep-th].
- [11] Stephen Ebert, Atul Sharma, and **Diandian Wang**. “Descendants in celestial CFT and emergent multi-collinear factorization”. In: *JHEP* 03 (2021), p. 030. DOI: [10.1007/JHEP03\(2021\)030](https://doi.org/10.1007/JHEP03(2021)030). arXiv: [2009.07881](https://arxiv.org/abs/2009.07881) [hep-th].
- [12] Gary T. Horowitz and **Diandian Wang**. “Consequences of Analytic Boundary Conditions in AdS”. In: *JHEP* 04 (2020), p. 045. DOI: [10.1007/JHEP04\(2020\)045](https://doi.org/10.1007/JHEP04(2020)045). arXiv: [2002.10609](https://arxiv.org/abs/2002.10609) [gr-qc].
- [13] Gary T. Horowitz and **Diandian Wang**. “Gravitational Corner Conditions in Holography”. In: *JHEP* 01 (2020), p. 155. DOI: [10.1007/JHEP01\(2020\)155](https://doi.org/10.1007/JHEP01(2020)155). arXiv: [1909.11703](https://arxiv.org/abs/1909.11703) [hep-th].
- [14] Ulrich Sperhake, William Cook, and **Diandian Wang**. “High-energy collision of black holes in higher dimensions”. In: *Phys. Rev. D* 100.10 (2019), p. 104046. DOI: [10.1103/PhysRevD.100.104046](https://doi.org/10.1103/PhysRevD.100.104046). arXiv: [1909.02997](https://arxiv.org/abs/1909.02997) [gr-qc].
- [15] Gary T. Horowitz, Don Marolf, Jorge E. Santos, and **Diandian Wang**. “Creating a Traversable Wormhole”. In: *Class. Quant. Grav.* 36.20 (2019), p. 205011. DOI: [10.1088/1361-6382/ab436f](https://doi.org/10.1088/1361-6382/ab436f). arXiv: [1904.02187](https://arxiv.org/abs/1904.02187) [hep-th].
- [16] William G. Cook, **Diandian Wang**, and Ulrich Sperhake. “Orbiting black-hole binaries and apparent horizons in higher dimensions”. In: *Class. Quant. Grav.* 35.23 (2018), p. 235008. DOI: [10.1088/1361-6382/aae995](https://doi.org/10.1088/1361-6382/aae995). arXiv: [1808.05834](https://arxiv.org/abs/1808.05834) [gr-qc].
- [17] Philip Brown, Konstantin Semeniuk, **Diandian Wang**, Bartomeu Monserrat, Chris J. Pickard, and F. Malte Grosche. “Strong coupling superconductivity in a quasiperiodic host-guest structure”. In: *Science Advances* 4.4 (2018), eaao4793. DOI: [10.1126/sciadv.aao4793](https://doi.org/10.1126/sciadv.aao4793). URL: <https://www.science.org/doi/abs/10.1126/sciadv.aao4793>.

## AWARDS

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- Trinity College Examination Prize (each year for 4 years) [2014-2018]
- Elected Senior Scholar of Trinity College, Cambridge [2016]
- Elected Junior Scholar of Trinity College, Cambridge [2015]
- Grand Master of Memory (International Association of Memory) [2011]

## TALKS GIVEN

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- Quantum Gravity Zoom Seminar, Oxford [05/2025]
- Northeastern University [03/2025]
- String/Gravity Theory Seminar, MIT [02/2025]
- Particle Theory Seminar, Cornell [02/2025]
- General Relativity Seminar, CMSA, Harvard [09/2024]
- Quantum Gravity Seminar Series, Brandeis [11/2023]

- Celestial Kickoff Workshop, Harvard [10/2023]
- General Relativity Seminar, CMSA, Harvard [09/2023]
- High Energy Seminar, Kavli Institute of Theoretical Physics (KITP) [10/2022]
- Fundamental Aspects of Gravity Conference, Imperial College London [08/2022]
- High Energy Seminar, Beijing Normal University [11/2021]
- TASI, University of Colorado Boulder [06/2021]
- Oxford String Theory Journal Club, University of Oxford [05/2021]
- High Energy Seminar, Kavli Institute of Theoretical Sciences (KITS) [04/2021]
- Pacific Coast Gravity Meeting, University of Arizona [03/2021]
- South California String Seminar, UCLA [02/2020]
- South California String Seminar, CalTech [05/2019]
- Pacific Coast Gravity Meeting, University of Utah [03/2019]

## PRESS

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- Featured in [The Companion](#), Becca Caddy [05/2022]
  - “*The Science of Wormholes, Portals, and the Guardian of Forever*”
- Mentioned in [Live Science](#), Paul Sutter [11/2021]
- Featured in [New Scientist](#), Chelsea Whyte [10/2019]
  - “*Quantum weirdness could allow a person-sized wormhole to last forever*”
- Mentioned in [Space.com](#), Mara Johnson-Groh [08/2019]