

MARTIN SASIETA

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EMPLOYMENT

UC Berkeley Center for Theoretical Physics

Postdoctoral Scholar

Berkeley, CA, USA

Sep 2025 – present

Brandeis University

Postdoctoral Scholar

Waltham, MA, USA

Oct 2022 – Sep 2025

EDUCATION

Instituto de Física Teórica UAM/CSIC

Ph.D. in Theoretical Physics (Advisor: José L. F. Barbón)

Madrid, Spain

Sep 2017 – Sep 2022

Cambridge University, DAMTP

M.A.St. in Applied Mathematics & Theoretical Physics

Cambridge, UK

Oct 2016 – Jul 2017

Universidad Autónoma de Madrid

B.Sc. in Physics

Madrid, Spain

Sep 2012 – Jun 2016

LIST OF PUBLICATIONS

1. The Baby Universe is Fine and the CFT Knows It

Stefano Antonini, Pratik Rath, Martin Sasieta, Brian Swingle, Alejandro Vilar-López

arXiv:2507.10649

2. Entangled Universes

Divij Gupta, Matthew Headrick, Martin Sasieta

arXiv:2505.08945

3. ER for typical EPR

Javier M. Magán, Martin Sasieta, Brian Swingle

arXiv:2504.07171

4. Random Circuits in the Black Hole Interior

Javier M. Magán, Martin Sasieta, Brian Swingle

SciPost Phys. 19, 007 (2025)

5. Complexity is not Enough for Randomness

Shiyong Guo, Martin Sasieta, Brian Swingle

SciPost Phys. 17, 151 (2024)

6. Universal Construction of Black Hole Microstates

Ana Climent, Roberto Emparan, Javier M. Magán, Martin Sasieta, Alejandro Vilar-López

Phys. Rev. D 109, 086024

7. **Geometric Surprises in the Python's Lunch Conjecture**
Gurbir Arora, Matthew Headrick, Albion Lawrence, Martin Sasieta, Connor Wolfe
SciPost Phys. 16, 152 (2024)
8. **A principle of maximum ignorance for semiclassical gravity**
Jan de Boer, Diego Liska, Boris Post, Martin Sasieta
J. High Energ. Phys. 2024, 3 (2024)
9. **Cosmology from Random Entanglement**
Stefano Antonini, Brian Swingle, Martin Sasieta
J. High Energ. Phys. 2023, 188 (2023)
10. **Microscopic Origin of the Entropy of Astrophysical Black Holes**
Vijay Balasubramanian, Albion Lawrence, Javier Magán, Martin Sasieta
Phys. Rev. Lett. 132 (2024) 14, 141501
11. **Microscopic Origin of the Entropy of Black Holes in General Relativity**
Vijay Balasubramanian, Albion Lawrence, Javier Magán, Martin Sasieta
Phys. Rev. X 14, 011024
12. **Wormholes from Heavy Operator Statistics in AdS/CFT**
Martin Sasieta
J. High Energ. Phys. 2023, 158 (2023)
13. **Holographic Complexity of Quantum Black Holes**
Roberto Emparan, Antonia Frassino, Marija Tomašević, Martin Sasieta
J. High Energ. Phys. 2022, 204 (2022)
14. **Ergodic Equilibration of Rényi Entropies and Replica Wormholes**
Martin Sasieta
J. High Energ. Phys. 2021, 14 (2021)
15. **A Generalized Momentum/Complexity Correspondence**
José L. F. Barbón, Javier Martín-García, Martin Sasieta
J. High Energ. Phys. 2021, 250 (2021)
16. **Proof Of A Momentum/Complexity Correspondence**
José L. F. Barbón, Javier Martín-García, Martin Sasieta
Phys. Rev. D 102 (2020) 10, 101901
17. **Momentum/Complexity Duality and the Black Hole Interior**
José L. F. Barbón, Javier Martín-García, Martin Sasieta
J. High Energ. Phys. 2020, 169 (2020)
18. **Holographic Bulk Reconstruction and Cosmological Singularities**
José L. F. Barbón, Martin Sasieta
J. High Energ. Phys. 2019, 26 (2019)

Seminar <i>Universidad de Barcelona</i>	Barcelona, Spain <i>Jan 2026</i>
Workshop <i>Institute for Advanced Study</i>	Princeton, NJ, USA <i>Dec 2025</i>
Strings Seminar <i>Berkeley University</i>	Berkeley, CA, USA <i>Nov 2025</i>
LITP Seminar <i>Stanford University</i>	Palo Alto, CA, USA <i>Nov 2025</i>
HETCOSMO Seminar <i>Syracuse University</i>	Syracuse, NY, USA <i>Nov 2025</i>
Invited talk at Eurostrings 2025 <i>Nordita</i> ER for typical EPR	Stockholm, Sweeden <i>August 2025</i>
Talk at “Quantum Gravity, Holography and Quantum Information” workshop <i>International Institute of Physics</i> ER for typical EPR	Natal, Brazil <i>July 2025</i>
Talk at “Gravity - New quantum and string perspectives” workshop <i>Centro de Ciencias de Benasque Pedro Pascual</i> ER for typical EPR	Benasque, Spain <i>July 2025</i>
IB hep-th Seminar <i>Instituto Balseiro, Centro Atómico de Bariloche (Virtual seminar)</i> Closed universes in AdS/CFT and beyond	Bariloche, Argentina <i>May 2025</i>
QuantISED workshop <i>UC Berkeley</i> ER for typical EPR	Berkeley, CA, USA <i>May 2025</i>
IFT seminar <i>IFT Madrid</i> Random Circuits in the Black Hole Interior	Madrid, Spain <i>Dec 2024</i>
High-TheQ online seminar <i>Ghent University</i> Random Circuits in Quantum Many-Body Systems and Black Holes	<i>Oct 2024</i>
Talk at “The Microscopic Origin of Black Hole Entropy” workshop <i>Aspen Center for Physics</i> Microstates of black holes and closed cosmologies in AdS/CFT	Aspen, CO, USA <i>Jun 2024</i>
UPV seminar <i>Universidad del Pais Vasco</i> Counting the microstates of black holes with the semiclassical path integral	Lehioa, Spain <i>May 2024</i>
BCTP string theory seminar <i>UC Berkeley</i> Geometric Surprises in the Python’s Lunch Conjecture	Berkeley, CA, USA <i>Apr 2024</i>

Harvard Jefferson seminar <i>Harvard University</i> Cosmology from random entanglement	Cambridge, MA, USA Mar 2024
Northeastern hep-th seminar <i>Northeastern University</i> Geometric Surprises in the Python's Lunch Conjecture	Boston, MA, USA Mar 2024
MURI annual meeting 2024 <i>UC Santa Barbara (Virtual talk)</i> Morphology of the Python's Lunch	Santa Barbara, CA, USA Jan 2024
QuantISED workshop <i>University of Pennsylvania</i> Discussion panel on Euclidean gravity	Philadelphia, PA, USA Oct 2023
UBC seminar <i>University of British Columbia (Virtual seminar)</i> Cosmology from random entanglement	Vancouver, British Columbia, Canada Oct 2023
Talk at QIGM2023 long-term workshop <i>Yukawa Institute for Theoretical Physics, University of Kyoto</i> Cosmology from random entanglement	Kyoto, Japan Sep 2023
Talk at “Gravity-New perspective from strings and higher dimensions” workshop <i>Centro de Ciencias de Benasque Pedro Pascual</i> Microstates of black holes and closed cosmologies in AdS/CFT	Benasque, Spain Jul 2023
Talk at QI Theory in QFT and Cosmology <i>Banff International Research Station</i> Cosmology from entanglement	Banff, Alberta, Canada Mar 2023
HEP-TH Belgian joint seminar <i>Université libre de Bruxelles</i> Microscopic origin of the entropy of black holes in general relativity	Brussels, Belgium Apr 2023
MIT CTP seminar <i>Massachusetts Institute of Technology, Center of Theoretical Physics</i> Microscopic origin of the entropy of black holes in general relativity	Cambridge, MA, USA Mar 2023
UPenn seminar <i>University of Pennsylvania</i> Wormholes from heavy operator statistics in AdS/CFT	Philadelphia, PA, USA Nov 2022
Brandeis Quantum/Gravity seminar <i>Brandeis University</i> Wormholes from heavy operator statistics in AdS/CFT	Waltham, MA, USA Nov 2022
QuantISED seminar <i>QuantISED collaboration</i> Wormholes from heavy operator statistics in AdS/CFT (Virtual seminar)	Oct 2022
Iberian Strings 2022 <i>Universidad de Oviedo</i> Holographic Complexity of Quantum Black Holes	Gijón, Spain Mar 2022

GQFI-UGent-WST Seminar

Albert Einstein Institute, Ghent University and University Warsaw
Holographic Complexity of Quantum Black Holes (Virtual seminar)

Jan 2022

ICCUB Seminar

Universitat de Barcelona
Replica Wormholes from the Equilibration of Rényi Entropies (Virtual seminar)

Barcelona, Spain
Feb 2021

Iberian Strings 2021

Instituto Superior Técnico
A Momentum/Complexity Correspondence (Virtual talk)

Lisboa, Portugal
Jan 2021

Iberian Strings 2020

Instituto Galego de Física de Altas Enerxías
Momentum/Complexity Duality and the Black Hole Interior

Santiago de Compostela, Spain
Jan 2020

XI CPAN DAYS

Centro Nacional de Física de Partículas, Astropartículas y Nuclear
Holographic Bulk Reconstruction and Cosmological Singularities

Oviedo, Spain
Oct 2019

SIFTS 2019

Instituto de Física Teórica IFT-UAM/CSIC
Holographic Bulk Reconstruction and Cosmological Singularities

Madrid, Spain
Jul 2019

Quantum Information and String Theory 2019

Yukawa Institute for Theoretical Physics, University of Kyoto
Holographic Bulk Reconstruction and Cosmological Singularities (Poster)

Kyoto, Japan
Jun 2019

TAE 2018 International Summer Workshop on High Energy Physics

Centro de Ciencias de Benasque Pedro Pascual

Benasque, Spain
Sep 2018

OTHER ACTIVITIES

Program Comittee at It from Qubit

Perimeter Institute for Theoretical Physics

Waterloo, Canada
Jul 2023

Reviewer for physics journals

Journal of High Energy Physics (JHEP), Physics Letters B

Outreach**GRANTS AND AWARDS**

FPU Grant for International PhD Stay

Spanish Ministry of Education M.E.C.D.

Oct 2020

FPU Grant FPU16/00639

Spanish Ministry of Education M.E.C.D.

Aug 2018 - Sep 2021

FPI-UAM Grant

Unviersidad Autónoma de Madrid

Sep 2017 - Jul 2018

Final Year Scholarship for Distinction in M.A.St.

Girton College, Cambridge University

Jul 2017

Santander Cambridge Scholarship*Cambridge Commonwealth Trust**Oct 2016 - Jul 2017***Award for best academic record in Physics***Universidad Autónoma de Madrid**Sep 2016***Excellence Award***Comunidad de Madrid**Mar 2016***Colaboration Scholarship***Spanish Ministry of Education M.E.C.D.**Dec 2015*

SHORT-TERM VISITS

California Institute of Technology*Walter Burke Institute for Theoretical Physics**Pasadena, CA, USA**Apr 2024***University of Amsterdam***Institute of Theoretical Physics**Amsterdam, The Netherlands**Sep 2021 - Dec 2021***Universitat de Barcelona***Dept. de Física Quàntica i Astrofísica**Barcelona, Spain**Jan 2021 - Apr 2021*

SCHOOLS

Summer IFT School 2019*Instituto de Física Teórica UAM/CSIC**Madrid, Spain**Jul 2019***QIST It from Qubit School 2019***Yukawa Institute for Theoretical Physics**Kyoto, Japan**Jun 2019***Spring School on Superstring Theory and Related Topics 2018***International Centre for Theoretical Physics**Trieste, Italy**Mar 2018*

TEACHING EXPERIENCE

Teaching Assistant*Unviersidad Autónoma de Madrid**Jan 2019 - May 2020*

- Classical Electrodynamics
- Classical Electrodynamics
- Mathematical Methods II: Complex Analysis
- Physics lab

*Spring 2019**Spring 2020**Spring 2020**Fall 2020*