

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)

Invited talk at Eurostrings 2025

Nordita

ER for typical EPR

Stockholm, Sweden

August 2025

Talk at “Quantum Gravity, Holography and Quantum Information” workshop

International Institute of Physics

ER for typical EPR

Natal, Brazil

July 2025

Talk at “Gravity - New quantum and string perspectives” workshop

Centro de Ciencias de Benasque Pedro Pascual

ER for typical EPR

Benasque, Spain

July 2025

IB hep-th Seminar

Instituto Balseiro, Centro Atómico de Bariloche (Virtual seminar)

Closed universes in AdS/CFT and beyond

Bariloche, Argentina

May 2025

QuantISED workshop

UC Berkeley

ER for typical EPR

Berkeley, CA, USA

May 2025

IFT seminar

IFT Madrid

Random Circuits in the Black Hole Interior

Madrid, Spain

Dec 2024

High-TheQ online seminar

Ghent University

Random Circuits in Quantum Many-Body Systems and Black Holes

Oct 2024

Talk at “The Microscopic Origin of Black Hole Entropy” workshop

Aspen Center for Physics

Microstates of black holes and closed cosmologies in AdS/CFT

Aspen, CO, USA

Jun 2024

UPV seminar

Universidad del Pais Vasco

Counting the microstates of black holes with the semiclassical path integral

Lehioa, Spain

May 2024

BCTP string theory seminar

UC Berkeley

Geometric Surprises in the Python’s Lunch Conjecture

Berkeley, CA, USA

Apr 2024

Harvard Jefferson seminar

Harvard University

Cosmology from random entanglement

Cambridge, MA, USA

Mar 2024

Northeastern hep-th seminar

Northeastern University

Geometric Surprises in the Python’s Lunch Conjecture

Boston, MA, USA

Mar 2024

MURI annual meeting 2024

UC Santa Barbara (Virtual talk)

Morphology of the Python’s Lunch

Santa Barbara, CA, USA

Jan 2024

QuantISED workshop

University of Pennsylvania

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 <i>Albert Einstein Institute, Ghent University and University Warsaw</i> Holographic Complexity of Quantum Black Holes (Virtual seminar)	Jan 2022
ICCUB Seminar <i>Universitat de Barcelona</i> Replica Wormholes from the Equilibration of Rényi Entropies (Virtual seminar)	Barcelona, Spain Feb 2021
Iberian Strings 2021 <i>Instituto Superior Técnico</i> A Momentum/Complexity Correspondence (Virtual talk)	Lisboa, Portugal Jan 2021
Iberian Strings 2020 <i>Instituto Galego de Física de Altas Enerxías</i> 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