

# Curriculum Vitae

## JUAN MARTÍN MALDACENA

### Personal

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### Education and Professional Experience

- 2016 - present, Carl P. Feinberg Professor at the Institute for Advanced Study
- 2001 - present, Professor at the Institute for Advanced Study
- 1999-2001 Professor of Physics at Harvard University.
- 1998-1999 Tomas D. Cabot Associate Professor at Harvard University.
- 1997, Visiting Associate Professor at Harvard University.
- 1996-1997: Research Associate (post-doc) at Rutgers University.
- 1992-1996 Ph.D. Program at Princeton University. Ph.D. advisor C. Callan.
- 1988-1991 Student at Instituto Balseiro from the Universidad de Cuyo, Bariloche, Argentina. “Licenciatura” supervised by G. Aldazabal.
- 1986-1988 Student at the University of Buenos Aires, Argentina.

## Professional Societies and Other Activities

- Member of The World Academy of Sciences (TWAS)
- Member of the National Academy of Sciences
- Member of the Committee for the Mathematical Sciences in 2025 Study of the National Academy of Sciences
- Member of the American Physical Society
- Member of the American Academy of Arts and Sciences
- Member of the Scientific Council for the International Center for Theoretical Physics
- Member of the steering committee for the ICTP South American Center for Theoretical Physics (at Sao Paulo)
- Honorary doctorates at the University of Buenos Aires, University of Cordoba, Argentina and the KU Leuven (2022)

## Honors and Awards

- 2022, “Mención de Honor Diputado Nacional Dr. Juan Bautista Alberdi”, Cámara de Diputados, Argentina
- 2019, Galileo Galilei Medal
- 2018, Lorentz Medal
- 2018, Richard E. Prange Prize
- 2018, Einstein Medal
- 2012, Milner Foundation Fundamental Physics Prize
- 2012, I.Ya.Pomeranchuk Prize
- 2008, ICTP Dirac Medal
- 2007, Dannie Heineman Prize for Mathematical Physics
- 2004, Distinguished Lecturer at Stanford University
- 2004, APS Edward A. Bouchet Award
- 2002, Pius XI Medal
- 2001, Xanthopoulos Prize in General Relativity
- 2000, Sackler Prize in Physics

- 1999, UNESCO Husein Prize for Young Scientists
- 1999, MacArthur Fellowship
- 1998, Packard Fellowship in Science and Engineering
- 1998, Sloan Fellowship

# List of Publications

## References

- [1] A. Biggs and J. Maldacena, “Comparing the Decoherence Effects Due to Black Holes Versus Ordinary Matter,” [arXiv:2405.02227 [hep-th]].
- [2] J. Maldacena, “Comments on the No Boundary Wavefunction and Slow Roll Inflation,” [arXiv:2403.10510 [hep-th]].
- [3] J. Maldacena, “The AdS/CFT Correspondence,” doi:10.1007/978-981-19-3079-9\_65-1
- [4] A. Herderschee and J. Maldacena, “Soft Theorems in Matrix Theory,” [arXiv:2312.15111 [hep-th]].
- [5] A. Herderschee and J. Maldacena, “Three Point Amplitudes in Matrix Theory,” J. Phys. A **57**, no.16, 165401 (2024) doi:10.1088/1751-8121/ad389b [arXiv:2312.12592 [hep-th]].
- [6] Y. Chen, V. Ivo and J. Maldacena, “Comments on the Double Cone Wormhole,” JHEP **04**, 124 (2024) doi:10.1007/JHEP04(2024)124 [arXiv:2310.11617 [hep-th]].
- [7] A. Biggs, J. Maldacena and V. Narovlansky, “A Supersymmetric SYK Model with a Curious Low Energy Behavior,” JHEP **08**, 124 (2024) doi:10.1007/JHEP08(2024)124 [arXiv:2309.08818 [hep-th]].
- [8] J. Maldacena, “A Simple Quantum System that Describes a Black Hole,” [arXiv:2303.11534 [hep-th]].
- [9] A. Biggs and J. Maldacena, “Scaling Similarities and Quasinormal Modes of D0 Black Hole Solutions,” JHEP **11**, 155 (2023) doi:10.1007/JHEP11(2023)155 [arXiv:2303.09974 [hep-th]].
- [10] I. Bah, Y. Chen and J. Maldacena, “Estimating Global Charge Violating Amplitudes from Wormholes,” JHEP **04**, 061 (2023) doi:10.1007/JHEP04(2023)061 [arXiv:2212.08668 [hep-th]].
- [11] D. Harlow, S. Kachru, J. Maldacena, I. Bah, M. Blake, R. Bousso, M. Cvetič, X. Dong, N. Engelhardt and T. Faulkner, *et al.* “TF1 Snowmass Report: Quantum Gravity, String Theory, and Black Holes,” [arXiv:2210.01737 [hep-th]].
- [12] J. Maldacena and G. N. Remmen, “Accumulation-Point Amplitudes in String Theory,” JHEP **08**, 152 (2022) doi:10.1007/JHEP08(2022)152 [arXiv:2207.06426 [hep-th]].
- [13] H. W. Lin, J. Maldacena, L. Rozenberg and J. Shan, “Holography for people with no time,” SciPost Phys. **14**, no.6, 150 (2023) doi:10.21468/SciPostPhys.14.6.150 [arXiv:2207.00407 [hep-th]].

- [14] H. W. Lin, J. Maldacena, L. Rozenberg and J. Shan, “Looking at Supersymmetric Black Holes for a Very Long Time,” *SciPost Phys.* **14**, 128 (2023) doi:10.21468/SciPostPhys.14.5.128 [arXiv:2207.00408 [hep-th]].
- [15] Y. Chen, J. Maldacena and E. Witten, “On the Black Hole/String Transition,” *JHEP* **01**, 103 (2023) doi:10.1007/JHEP01(2023)103 [arXiv:2109.08563 [hep-th]].
- [16] Y. Chen and J. Maldacena, “String Scale Black Holes at Large D,” *JHEP* **01**, 095 (2022) doi:10.1007/JHEP01(2022)095 [arXiv:2106.02169 [hep-th]].
- [17] M. Grinberg and J. Maldacena, “Proper Time to the Black Hole Singularity from Thermal One-Point Functions,” *JHEP* **03**, 131 (2021) doi:10.1007/JHEP03(2021)131 [arXiv:2011.01004 [hep-th]].
- [18] J. Maldacena and A. Milekhin, “Humanly Traversable Wormholes,” *Phys. Rev. D* **103**, no.6, 066007 (2021) doi:10.1103/PhysRevD.103.066007 [arXiv:2008.06618 [hep-th]].
- [19] Y. Chen, V. Gorbenko and J. Maldacena, “Bra-ket Wormholes in Gravitationally Prepared States,” *JHEP* **02**, 009 (2021) doi:10.1007/JHEP02(2021)009 [arXiv:2007.16091 [hep-th]].
- [20] A. Almheiri, T. Hartman, J. Maldacena, E. Shaghoulian and A. Tajdini, “The Entropy of Hawking Radiation,” *Rev. Mod. Phys.* **93**, no.3, 035002 (2021) doi:10.1103/RevModPhys.93.035002 [arXiv:2006.06872 [hep-th]].
- [21] J. Maldacena, “Comments on Magnetic Black Holes,” *JHEP* **04**, 079 (2021) doi:10.1007/JHEP04(2021)079 [arXiv:2004.06084 [hep-th]].
- [22] J. Maldacena, “Black Holes and Quantum Information,” *Nature Rev. Phys.* **2**, no.3, 123-125 (2020) doi:10.1038/s42254-019-0146-z
- [23] J. Maldacena and A. Milekhin, “SYK Wormhole Formation in Real Time,” *JHEP* **04**, 258 (2021) doi:10.1007/JHEP04(2021)258 [arXiv:1912.03276 [hep-th]].
- [24] A. Almheiri, T. Hartman, J. Maldacena, E. Shaghoulian and A. Tajdini, “Replica Wormholes and the Entropy of Hawking Radiation,” *JHEP* **05**, 013 (2020) doi:10.1007/JHEP05(2020)013 [arXiv:1911.12333 [hep-th]].
- [25] A. Almheiri, R. Mahajan and J. Maldacena, “Islands Outside the Horizon,” arXiv:1910.11077 [hep-th].
- [26] J. Maldacena, “Developments in Black Hole Entropy,” doi:10.1142/9789811203961\_0008
- [27] A. Almheiri, R. Mahajan, J. Maldacena and Y. Zhao, “The Page Curve of Hawking Radiation from Semiclassical Geometry,” *JHEP* **03**, 149 (2020) doi:10.1007/JHEP03(2020)149 [arXiv:1908.10996 [hep-th]].

- [28] H. Erbin, J. Maldacena and D. Skliros, “Two-Point String Amplitudes,” *JHEP* **1907**, 139 (2019) doi:10.1007/JHEP07(2019)139 arXiv:1906.06051 [hep-th].
- [29] H. W. Lin, J. Maldacena and Y. Zhao, “Symmetries Near the Horizon,” *JHEP* **1908**, 049 (2019) doi:10.1007/JHEP08(2019)049 arXiv:1904.12820 [hep-th].
- [30] J. Maldacena, G. J. Turiaci and Z. Yang, “Two dimensional Nearly de Sitter gravity,” *JHEP* **01**, 139 (2021) doi:10.1007/JHEP01(2021)139 [arXiv:1904.01911 [hep-th]].
- [31] J. Maldacena, “Black Hole Entropy and Quantum Mechanics,” arXiv:1810.11492 [hep-th].
- [32] J. Maldacena, A. Milekhin and F. Popov, “Traversable wormholes in four dimensions,” *Class. Quant. Grav.* **40**, no.15, 155016 (2023) doi:10.1088/1361-6382/acde30 [arXiv:1807.04726 [hep-th]].
- [33] J. Maldacena and X. L. Qi, “Eternal Traversable Wormhole,” arXiv:1804.00491 [hep-th].
- [34] J. Maldacena and A. Milekhin, “To Gauge or not to Gauge?,” *JHEP* **1804**, 084 (2018) doi:10.1007/JHEP04(2018)084 [arXiv:1802.00428 [hep-th]].
- [35] C. Cordova, J. Maldacena and G. J. Turiaci, “Bounds on OPE Coefficients from Interference Effects in the Conformal Collider,” *JHEP* **1711**, 032 (2017) doi:10.1007/JHEP11(2017)032 [arXiv:1710.03199 [hep-th]].
- [36] I. Kourkoulou and J. Maldacena, “Pure States in the SYK Model and Nearly- $AdS_2$  Gravity,” arXiv:1707.02325 [hep-th].
- [37] J. Maldacena, D. Stanford and Z. Yang, “Diving into Traversable Wormholes,” *Fortsch. Phys.* **65**, no. 5, 1700034 (2017) doi:10.1002/prop.201700034 [arXiv:1704.05333 [hep-th]].
- [38] W. Fu, D. Gaiotto, J. Maldacena and S. Sachdev, “Supersymmetric Sachdev-Ye-Kitaev Models,” *Phys. Rev. D* **95**, no. 2, 026009 (2017) Addendum: [*Phys. Rev. D* **95**, no. 6, 069904 (2017)] doi:10.1103/PhysRevD.95.069904, 10.1103/PhysRevD.95.026009 [arXiv:1610.08917 [hep-th]].
- [39] J. Maldacena, D. Stanford and Z. Yang, “Conformal Symmetry and its Breaking in Two Dimensional Nearly Anti-de-Sitter Space,” *PTEP* **2016**, no. 12, 12C104 (2016) doi:10.1093/ptep/ptw124 [arXiv:1606.01857 [hep-th]].
- [40] J. Maldacena and D. Stanford, “Remarks on the Sachdev-Ye-Kitaev Model,” *Phys. Rev. D* **94**, no. 10, 106002 (2016) doi:10.1103/PhysRevD.94.106002 [arXiv:1604.07818 [hep-th]].
- [41] J. M. Maldacena, “An Introduction to the Gauge/Gravity Duality,” *Les Houches Lect. Notes* **97**, 141 (2015). doi:10.1093/acprof:oso/9780198727965.003.0006

- [42] D. L. Jafferis, A. Lewkowycz, J. Maldacena and S. J. Suh, “Relative Entropy Equals Bulk Relative Entropy,” JHEP **1606**, 004 (2016) doi:10.1007/JHEP06(2016)004 arXiv:1512.06431 [hep-th].
- [43] V. Alba and J. Maldacena, “Primordial Gravity Wave Background Anisotropies,” JHEP **1603**, 115 (2016) doi:10.1007/JHEP03(2016)115 arXiv:1512.01531 [hep-th].
- [44] J. Maldacena, D. Simmons-Duffin and A. Zhiboedov, “Looking for a Bulk Point,” JHEP **1701**, 013 (2017) doi:10.1007/JHEP01(2017)013 arXiv:1509.03612 [hep-th].
- [45] J. Maldacena, “A Model with Cosmological Bell Inequalities,” Fortsch. Phys. **64**, 10-23 (2016) doi:10.1002/prop.201500097 [arXiv:1508.01082 [hep-th]].
- [46] N. Arkani-Hamed and J. Maldacena, “Cosmological Collider Physics,” arXiv:1503.08043 [hep-th].
- [47] J. Maldacena, S. H. Shenker and D. Stanford, “A Bound on Chaos,” JHEP **1608**, 106 (2016) doi:10.1007/JHEP08(2016)106 arXiv:1503.01409 [hep-th].
- [48] J. Maldacena, “The Symmetry and Simplicity of the Laws of Physics and the Higgs Boson,” Eur. J. Phys. **37**, no. 1, 015802 (2016), doi:10.1088/0143-0807/37/1/015802 arXiv:1410.6753 [physics.pop-ph].
- [49] X. O. Camanho, J. D. Edelstein, J. Maldacena and A. Zhiboedov, “Causality Constraints on Corrections to the Graviton Three-Point Coupling,” JHEP **1602**, 020 (2016) doi:10.1007/JHEP02(2016)020 arXiv:1407.5597 [hep-th].
- [50] R. Bousso, H. Casini, Z. Fisher and J. Maldacena, “Entropy on a Null Surface for Interacting Quantum Field Theories and the Bousso Bound,” Phys. Rev. D **91**, no. 8, 084030 (2015), doi:10.1103/PhysRevD.91.084030 arXiv:1406.4545 [hep-th].
- [51] J. Maldacena, “Testing Gauge/Gravity Duality on a Quantum Black Hole,” Science **344**, no. 6186, 806 (2014).
- [52] R. Bousso, H. Casini, Z. Fisher and J. Maldacena, “Proof of a Quantum Bousso Bound,” Phys. Rev. D **90**, no. 4, 044002 (2014) arXiv:1404.5635 [hep-th].
- [53] A. Lewkowycz and J. Maldacena, “Exact Results for the Entanglement Entropy and the Energy Radiated by a Quark,” JHEP **1405**, 025 (2014) arXiv:1312.5682 [hep-th].
- [54] K. N. Abazajian, K. Arnold, J. Austermann, B. A. Benson, C. Bischoff, J. Bock, J. R. Bond and J. Borrill *et al.*, “Inflation Physics from the Cosmic Microwave Background and Large Scale Structure,” Astropart. Phys. **63**, 55 (2015) arXiv:1309.5381 [astro-ph.CO].
- [55] T. Faulkner, A. Lewkowycz and J. Maldacena, “Quantum Corrections to Holographic Entanglement Entropy,” JHEP **1311**, 074 (2013) [arXiv:1307.2892].
- [56] J. Maldacena and L. Susskind, “Cool Horizons for Entangled Black Holes,” Fortsch. Phys. **61**, 781 (2013) [arXiv:1306.0533 [hep-th]].

- [57] A. Lewkowycz and J. Maldacena, “Generalized Gravitational Entropy,” JHEP **1308**, 090 (2013) [arXiv:1304.4926 [hep-th]].
- [58] T. Hartman and J. Maldacena, “Time Evolution of Entanglement Entropy from Black Hole Interiors,” JHEP **1305**, 014 (2013) [arXiv:1303.1080 [hep-th]].
- [59] O. Aharony, S. Giombi, G. Gur-Ari, J. Maldacena and R. Yacoby, “The Thermal Free Energy in Large N Chern-Simons-Matter Theories,” JHEP **1303**, 121 (2013) [arXiv:1211.4843 [hep-th]].
- [60] J. Maldacena and G. L. Pimentel, “Entanglement Entropy in de Sitter Space,” JHEP **1302**, 038 (2013) [arXiv:1210.7244 [hep-th]].
- [61] J. Maldacena and A. Zhiboedov, “Constraining Conformal Field Theories with a Slightly Broken Higher Spin Symmetry,” Class. Quant. Grav. **30**, 104003 (2013) [arXiv:1204.3882 [hep-th]].
- [62] D. Correa, J. Maldacena and A. Sever, “The Quark Anti-Quark Potential and the Cusp Anomalous Dimension from a TBA Equation,” JHEP **1208**, 134 (2012) [arXiv:1203.1913 [hep-th]].
- [63] D. Correa, J. Henn, J. Maldacena and A. Sever, “The Cusp Anomalous Dimension at Three Loops and Beyond,” JHEP **1205**, 098 (2012) hep-th/1203.1019.
- [64] D. Correa, J. Henn, J. Maldacena and A. Sever, “An Exact Formula for the Radiation of a Moving Quark in N=4 Super Yang Mills,” JHEP **1206**, 048 (2012) hep-th/1202.4455.
- [65] J. Maldacena and A. Zhiboedov, “Constraining Conformal Field Theories with a Higher Spin Symmetry,” J. Phys. A **46**, 214011 (2013) [arXiv:1112.1016 [hep-th]].
- [66] J. Maldacena, “The Gauge/Gravity Duality,” hep-th/1106.6073.
- [67] J. Maldacena, “Einstein Gravity from Conformal Gravity,” hep-th/1105.5632.
- [68] J. M. Maldacena, G. L. Pimentel, “On graviton non-Gaussianities During Inflation,” JHEP **1109**, 045 (2011), hep-th/1104.2846.
- [69] D. Gaiotto, J. Maldacena, A. Sever, P. Vieira, “Pulling the Straps of Polygons,” JHEP **1112**, 011 (2011), hep-th/1102.0062.
- [70] J. Maldacena, “Vacuum Decay into Anti de Sitter Space,” hep-th/1012.0274.
- [71] D. Gaiotto, J. Maldacena, A. Sever, P. Vieira, “Bootstrapping Null Polygon Wilson Loops,” JHEP **1103**, 092 (2011), hep-th/1010.5009.
- [72] J. Maldacena, A. Zhiboedov, “Form Factors at Strong Coupling via a Y-system,” JHEP **1011**, 104 (2010), hep-th/1009.1139.
- [73] L. F. Alday, B. Eden, G. P. Korchemsky, J. Maldacena, E. Sokatchev, “From Correlation Functions to Wilson Loops,” JHEP **1109**, 123 (2011), hep-th/1007.3243.

- [74] L. F. Alday, D. Gaiotto, J. Maldacena, A. Sever, P. Vieira, “An Operator Product Expansion for Polygonal Null Wilson Loops,” JHEP **1104**, 088 (2011), hep-th/1006.2788.
- [75] L. F. Alday, J. Maldacena, A. Sever, P. Vieira, “Y-system for Scattering Amplitudes,” J. Phys. A **A43**, 485401 (2010), hep-th/1002.2459.
- [76] L. F. Alday, D. Gaiotto, J. Maldacena, “Thermodynamic Bubble Ansatz,” JHEP **1109**, 032 (2011), hep-th/0911.4708.
- [77] J. Maldacena, D. Martelli, “The Unwarped, Resolved, Deformed Conifold: Five-branes and the Baryonic Branch of the Klebanov-Strassler Theory,” JHEP **1001**, 104 (2010), hep-th/0906.0591.
- [78] D. Gaiotto, J. Maldacena, “The Gravity Duals of N=2 Superconformal Field Theories,” hep-th/0904.4466.
- [79] L. F. Alday, J. Maldacena, “Null Polygonal Wilson Loops and Minimal Surfaces in Anti-de-Sitter Space,” JHEP **0911**, 082 (2009), hep-th/0904.0663.
- [80] L. F. Alday, J. Maldacena, “Minimal Surfaces in AdS and the Eight-gluon Scattering Amplitude at Strong Coupling,” hep-th/0903.4707.
- [81] I. R. Klebanov, J. M. Maldacena, “Solving Quantum Field Theories via Curved Spacetimes,” Phys. Today **62**, 28-33 (2009).
- [82] E. Komatsu, N. Afshordi, N. Bartolo, D. Baumann, J. R. Bond, E. I. Buchbinder, C. T. Byrnes, X. Chen *et al.*, “Non-Gaussianity as a Probe of the Physics of the Primordial Universe and the Astrophysics of the Low Redshift Universe,” astro-ph.CO/0902.4759.
- [83] L. F. Alday, J. Maldacena, “Lectures on Scattering Amplitudes via AdS/CFT,” AIP Conf. Proc. **1031**, 43-60 (2008).
- [84] L. F. Alday and J. Maldacena, “Lectures on Scattering Amplitudes via AdS/CFT,” AIP Conf. Proc. **1031**, 43 (2008).
- [85] N. Berkovits and J. Maldacena, “Fermionic T-Duality, Dual Superconformal Symmetry, and the Amplitude/Wilson Loop Connection,” JHEP **0809**, 062 (2008), hep-th/0807.3196.
- [86] J. Maldacena, D. Martelli and Y. Tachikawa, “Comments on String Theory Backgrounds with Non-Relativistic Conformal Symmetry,” JHEP **0810**, 072 (2008), hep-th/0807.1100.
- [87] O. Aharony, O. Bergman, D. L. Jafferis and J. Maldacena, “N=6 Superconformal Chern-Simons-matter Theories, M2-branes and Their Gravity Duals,” JHEP **0810**, 091 (2008), hep-th/0806.1218.

- [88] D. M. Hofman and J. Maldacena, “Conformal Collider Physics: Energy and Charge Correlations,” JHEP **0805**, 012, 2008, hep-th/0803.1467.
- [89] L. F. Alday and J. Maldacena, “Comments on Gluon Scattering Amplitudes via AdS/CFT,” JHEP **0711**, 068 (2007), hep-th/0710.1060.
- [90] D. M. Hofman and J. M. Maldacena, “Reflecting Magnons,” JHEP **0711**, 063 (2007), hep-th/0708.2272.
- [91] L. F. Alday and J. M. Maldacena, “Comments on Operators with Large Spin,” JHEP **0711**, 019 (2007), hep-th/0708.0672.
- [92] L. F. Alday and J. Maldacena, “Gluon Scattering Amplitudes at Strong Coupling,” JHEP **0706**, 064 (2007), hep-th/0705.0303.
- [93] J. Maldacena, “Large N Field Theories, String Theory and Gravity,” *Prepared for Conference on Topics in Mathematical Physics, General Relativity, and Cosmology on the Occasion of the 75th Birthday of Jerzy F. Plebanski, Mexico City, Mexico, 17-20 Sep 2002.*
- [94] N. Dorey, D. M. Hofman and J. Maldacena, “On the Singularities of the Magnon S-matrix,” Phys. Rev. D **76**, 025011 (2007), hep-th/0703104.
- [95] J. M. Maldacena and I. Swanson, “Connecting Giant Magnons to the pp-wave: An Interpolating Limit of  $AdS_5 \times S^5$ ,” Phys. Rev. D **76**, 026002 (2007), hep-th/0612079.
- [96] D. Baumann, A. Dymarsky, I. R. Klebanov, J. Maldacena, L. McAllister and A. Murugan, “On D3-brane Potentials in Compactifications with Fluxes and Wrapped D-branes,” JHEP **0611**, 031 (2006), hep-th/0607050.
- [97] D. M. Hofman and J. M. Maldacena, “Giant Magnons,” J. Phys. **A39:13095-13118**, (2006), hep-th/0604135.
- [98] J. M. Maldacena, “The Illusion of Gravity,” Spektrum Wiss. **2006N3**, 36 (2006).
- [99] A. Dymarsky, S. Gubser, Z. Guralnik and J. M. Maldacena, “Calibrated Surfaces and Supersymmetric Wilson Loops,” JHEP **0609:057**, (2006) hep-th/0604058.
- [100] I. R. Klebanov, J. Maldacena and C. B. Thorn, “Dynamics of Flux Tubes in Large N Gauge Theories,” JHEP **0604:024**, (2006) hep-th/0602255.
- [101] J. Kinney, J. Maldacena, S. Minwalla and S. Raju, “An Index for 4 Dimensional Super Conformal Theories,” Commun. Math. Phys. **275**, 209 (2007), hep-th/0510251.
- [102] H. Lin and J. Maldacena, “Fivebranes from Gauge Theory,” Phys. Rev. **D74:084014**, (2006) hep-th/0509235.
- [103] J. Maldacena and N. Seiberg, “Flux-Vacua in Two Dimensional String Theory,” JHEP **0509**, 077 (2005) hep-th/0506141.

- [104] J. Maldacena, “Long Strings in Two Dimensional String Theory and Non-Singlets in the Matrix Model,” JHEP **0509** 078 (2005), Int. J. Geom. Meth. Mod. Phys. 3:1-36 (2006) hep-th/0503112.
- [105] O. Lunin and J. Maldacena, “Deforming Field Theories with  $U(1) \times U(1)$  Global Symmetry and Their Gravity Duals,” JHEP **0505** 033 (2005) hep-th/0502086.
- [106] J. L. Karczmarek, J. Maldacena and A. Strominger, “Black Hole Non-Formation in the Matrix Model,” JHEP **0601** 039 (2006) hep-th/0411174.
- [107] H. Lin, O. Lunin and J. Maldacena, “Bubbling AdS Space and 1/2 BPS Geometries,” JHEP **0410**, 025 (2004) hep-th/0409174.
- [108] I. R. Klebanov and J. M. Maldacena, “Superconformal Gauge Theories and Non-Critical Superstrings,” Int. J. Mod. Phys. A **19**, 5003 (2004) hep-th/0409133.
- [109] J. Maldacena, G. W. Moore, N. Seiberg and D. Shih, “Exact vs. Semiclassical Target Space of the Minimal String,” JHEP **0410**, 020 (2004) hep-th/0408039.
- [110] J. Maldacena and L. Maoz, “Wormholes in AdS,” JHEP **0402**, 053 (2004) hep-th/0401024.
- [111] G. T. Horowitz and J. Maldacena, “The Black Hole Final State,” JHEP **0402**, 008 (2004) hep-th/0310281.
- [112] J. M. Maldacena, “TASI 2003 Lectures on AdS/CFT,” presented at *Theoretical Advanced Study Institute in Elementary Particle Physics (TASI 2003): Recent Trends in String Theory, Boulder, Colorado, 1-27 Jun 2003*, and published in *Boulder 2003, Progress in string theory*, pp. 155-203, hep-th/0309246.
- [113] I. R. Klebanov, J. Maldacena and N. Seiberg, “Unitary and Complex Matrix Models as 1-D Type 0 Strings,” Commun. Math. Phys. **252**, 275 (2004) hep-th/0309168.
- [114] S. Kachru, R. Kallosh, A. Linde, J. Maldacena, L. McAllister and S. P. Trivedi, “Towards Inflation in String Theory,” JCAP **0310**, 013 (2003) hep-th/0308055.
- [115] M. R. Douglas, I. R. Klebanov, D. Kutasov, J. Maldacena, E. Martinec and N. Seiberg, “A New Hat for the  $C = 1$  Matrix Model,” in *Shifman, M. (ed.) et al.: From Fields to Strings, Vol. 3, pp. 1758-1827*, hep-th/0307195.
- [116] J. L. Karczmarek, H. Liu, J. Maldacena and A. Strominger, “UV Finite Brane Decay,” JHEP **0311**, 042 (2003) hep-th/0306132.
- [117] I. R. Klebanov, J. Maldacena and N. Seiberg, “D-Brane Decay in Two-Dimensional String Theory,” JHEP **0307**, 045 (2003) hep-th/0305159.
- [118] N. Lambert, H. Liu and J. Maldacena, “Closed Strings from Decaying D-branes,” JHEP **0703**, 014 (2007), hep-th/0303139.
- [119] O. Lunin, J. Maldacena and L. Maoz, “Gravity Solutions for the D1-D5 System with Angular Momentum,” hep-th/0212210.

- [120] J. Maldacena, M. M. Sheikh-Jabbari and M. Van Raamsdonk, “Transverse Five-branes in Matrix Theory,” JHEP **0301**, 038 (2003) hep-th/0211139].
- [121] J. Maldacena, “Non-Gaussian Features of Primordial Fluctuations in Single Field Inflationary Models,” JHEP **0305**, 013 (2003) astro-ph/0210603.
- [122] N. Berkovits and J. Maldacena, “N = 2 Superconformal Description of Superstring in Ramond-Ramond Plane Wave Backgrounds,” JHEP **0210**, 059 (2002) hep-th/0208092.
- [123] J. Maldacena and L. Maoz, “Strings on PP-Waves and Massive Two Dimensional Field Theories,” JHEP **0212**, 046 (2002) hep-th/0207284.
- [124] D. Berenstein, E. Gava, J. M. Maldacena, K. S. Narain and H. Nastase, “Open Strings on Plane Waves and Their Yang-Mills Duals,” hep-th/0203249.
- [125] D. Berenstein, J. M. Maldacena and H. Nastase, “Strings in Flat Space and PP Waves from N = 4 Super Yang Mills,” JHEP **0204**, 013 (2002) hep-th/0202021.
- [126] J. Maldacena and H. Ooguri, “Strings in AdS(3) and the SL(2,R) WZW model III: Correlation Functions,” Phys. Rev. D **65**, 106006 (2002) hep-th/0111180.
- [127] J. Maldacena, G. Moore and N. Seiberg, “D-brane Charges in Five-brane Backgrounds,” JHEP **0110**, 005 (2001) hep-th/0108152.
- [128] J. Maldacena, G. Moore and N. Seiberg, “D-brane Instantons and K-theory Charges,” JHEP **0111**, 062 (2001) hep-th/0108100.
- [129] J. M. Maldacena, “Eternal Black Holes in Anti-de-Sitter,” JHEP **0304**, 021 (2003) hep-th/0106112.
- [130] J. Maldacena and H. Nastase, “The Supergravity Dual of a Theory with Dynamical Supersymmetry Breaking,” JHEP **0109**, 024 (2001) hep-th/0105049.
- [131] J. Maldacena, G. Moore and N. Seiberg, “Geometrical Interpretation of D-branes in Gauged WZW Models,” JHEP **0107**, 046 (2001) hep-th/0105038.
- [132] J. Maldacena and L. Maoz, “De-singularization by Rotation,” JHEP **0212**, 055 (2002) hep-th/0012025.
- [133] M. Atiyah, J. Maldacena and C. Vafa, “An M-theory Flop as a Large N Duality,” J. Math. Phys. **42**, 3209 (2001) hep-th/0011256.
- [134] J. M. Maldacena and C. Nunez, “Towards the Large N Limit of Pure N = 1 Super Yang Mills,” Phys. Rev. Lett. **86**, 588 (2001) hep-th/0008001.
- [135] J. Maldacena and C. Nunez, “Supergravity Description of Field Theories on Curved Manifolds and a No Go Theorem,” Int. J. Mod. Phys. A **16**, 822 (2001) hep-th/0007018.

- [136] I. R. Klebanov and J. Maldacena, “1+1 Dimensional NCOS and its  $U(N)$  Gauge Theory Dual,” *Int. J. Mod. Phys. A* **16**, 922 (2001) *Adv. Theor. Math. Phys.* **4**, 283 (2000) hep-th/0006085.
- [137] J. Maldacena, H. Ooguri and J. Son, “Strings in  $AdS(3)$  and the  $SL(2,R)$  WZW Model II: Euclidean Black Hole,” *J. Math. Phys.* **42**, 2961 (2001) hep-th/0005183.
- [138] R. Gopakumar, J. Maldacena, S. Minwalla and A. Strominger, “S-duality and Non-commutative Gauge Theory,” *JHEP* **0006**, 036 (2000) hep-th/0005048.
- [139] R. Dijkgraaf, J. Maldacena, G. Moore and E. Verlinde, “A Black Hole Farey Tail,” hep-th/0005003.
- [140] S. Hawking, J. Maldacena and A. Strominger, “DeSitter Entropy, Quantum Entanglement and  $AdS/CFT$ ,” *JHEP* **0105**, 001 (2001) hep-th/0002145.
- [141] J. Maldacena and H. Ooguri, “Strings in  $AdS(3)$  and  $SL(2,R)$  WZW Model I: The Spectrum,” *J. Math. Phys.* **42**, 2929 (2001) hep-th/0001053.
- [142] J. M. Maldacena and J. G. Russo, “Large  $N$  Limit of Noncommutative Gauge Theories,” *JHEP* **9909**, 025 (1999) hep-th/9908134.
- [143] O. Aharony, S.S. Gubser, J. Maldacena, H. Ooguri and Y. Oz, “Large  $N$  Field Theories, String Theory and Gravity,” *Phys. Rept.* **323**, 183 (2000) hep-th/9905111.
- [144] J. Maldacena, G. Moore and A. Strominger, “Counting BPS Black Holes in Toroidal Type-II String Theory,” hep-th/9903163.
- [145] J. Maldacena, J. Michelson and A. Strominger, “Anti-de Sitter Fragmentation,” *JHEP* **9902**, 011 (1999) hep-th/9812073.
- [146] D. Berenstein, R. Corrado, W. Fischler and J. Maldacena, “The Operator Product Expansion for Wilson Loops and Surfaces in the Large  $N$  Limit,” *Phys. Rev. D* **59**, 105023 (1999) hep-th/9809188.
- [147] O. Aharony, A. Fayyazuddin and J. Maldacena, “The Large  $N$  Limit of  $N=2$ ,  $N=1$  Field Theories from Three-branes in  $F$  Theory,” *JHEP* **07**, 013 (1998) hep-th/9806159.
- [148] J. Maldacena and A. Strominger, “ $AdS(3)$  Black Holes and a Stringy Exclusion Principle,” *JHEP* **12**, 005 (1998) *JHEP* **9812**, 005 (1998) hep-th/9804085.
- [149] J. Maldacena, “Wilson Loops in Large  $N$  Field Theories,” *Phys. Rev. Lett.* **80**, 4859 (1998) hep-th/9803002.
- [150] N. Itzhaki, J.M. Maldacena, J. Sonnenschein and S. Yankielowicz, “Supergravity and the Large  $N$  Limit of Theories with Sixteen Supercharges,” *Phys. Rev.* **D58**, 046004 (1998) hep-th/9802042.
- [151] J. Maldacena and A. Strominger, “Statistical Entropy of de Sitter Space,” *JHEP* **02**, 014 (1998) gr-qc/9801096.

- [152] J. Maldacena, “The Large N Limit of Superconformal Field Theories and Supergravity,” *Adv. Theor. Math. Phys.* **2**, 231 (1997) hep-th/9711200.
- [153] J. Maldacena, A. Strominger and E. Witten, “Black Hole Entropy in M Theory,” *JHEP* **12**, 002 (1997) hep-th/9711053.
- [154] J.M. Maldacena and A. Strominger, “Semiclassical Decay of Near Extremal Five-branes,” *JHEP* **12**, 008 (1997) hep-th/9710014.
- [155] J.M. Maldacena, “Branes Probing Black Holes,” *Nucl. Phys. Proc. Suppl.* **68**, 17 (1997) hep-th/9709099.
- [156] C.G. Callan and J.M. Maldacena, “Brane Death and Dynamics from the Born-Infeld Action,” *Nucl. Phys.* **B513**, 198 (1997) hep-th/9708147.
- [157] S. Ferrara and J. Maldacena, “Branes, Central Charges and U Duality Invariant BPS Conditions,” *Class. Quant. Grav.* **15**, 749 (1997) hep-th/9706097.
- [158] J.M. Maldacena, “Black Holes and D-branes,” *Nucl. Phys. Proc. Suppl.* **61A**, 111 (1997) hep-th/9705078.
- [159] J. Maldacena, “Probing Near Extremal Black Holes with D-branes,” *Phys. Rev.* **D57**, 3736 (1998) hep-th/9705053.
- [160] J. Maldacena and A. Strominger, “Universal Low-energy Dynamics for Rotating Black Holes,” *Phys. Rev.* **D56**, 4975 (1997) hep-th/9702015.
- [161] J.M. Maldacena, “N=2 Extremal Black Holes and Intersecting Branes,” *Phys. Lett.* **B403**, 20 (1997) hep-th/9611163.
- [162] J. Maldacena, “D-branes and Near Extremal Black Holes at Low-energies,” *Phys. Rev.* **D55**, 7645 (1997) hep-th/9611125.
- [163] D.M. Kaplan, D.A. Lowe, J.M. Maldacena and A. Strominger, “Microscopic Entropy of N=2 Extremal Black Holes,” *Phys. Rev.* **D55**, 4898 (1997) hep-th/9609204.
- [164] J. Maldacena and A. Strominger, “Black Hole Grey Body Factors and D-brane Spectroscopy,” *Phys. Rev.* **D55**, 861 (1997) hep-th/9609026.
- [165] J.M. Maldacena, “Black Holes in String Theory,” hep-th/9607235.
- [166] J.M. Maldacena, “Statistical Entropy of Near Extremal Five-branes,” *Nucl. Phys.* **B477**, 168 (1996) hep-th/9605016.
- [167] J.M. Maldacena and L. Susskind, “D-branes and Fat Black Holes,” *Nucl. Phys.* **B475**, 679 (1996) hep-th/9604042.
- [168] G.T. Horowitz, D.A. Lowe and J.M. Maldacena, “Statistical Entropy of Nonextremal Four-dimensional Black Holes and U Duality,” *Phys. Rev. Lett.* **77**, 430 (1996) hep-th/9603195.

- [169] G.T. Horowitz, J.M. Maldacena and A. Strominger, “Nonextremal Black Hole Microstates and U Duality,” *Phys. Lett.* **B383**, 151 (1996) hep-th/9603109.
- [170] J.M. Maldacena and A. Strominger, “Statistical Entropy of Four-dimensional Extremal Black Holes,” *Phys. Rev. Lett.* **77**, 428 (1996) hep-th/9603060.
- [171] C.G. Callan and J.M. Maldacena, “D-brane Approach to Black Hole Quantum Mechanics,” *Nucl. Phys.* **B472**, 591 (1996) hep-th/9602043.
- [172] S.S. Gubser, A. Hashimoto, I.R. Klebanov and J.M. Maldacena, “Gravitational Lensing by P-branes,” *Nucl. Phys.* **B472**, 231 (1996) hep-th/9601057.
- [173] C.G. Callan, J.M. Maldacena and A.W. Peet, “Extremal Black Holes as Fundamental Strings,” *Nucl. Phys.* **B475**, 645 (1996) hep-th/9510134.
- [174] J.M. Maldacena and A.W. Ludwig, “Majorana Fermions, Exact Mapping Between Quantum Impurity Fixed Points with Four Bulk Fermion Species, and Solution of the ‘Unitarity Puzzle’,” *Nucl. Phys.* **B506**, 565 (1995) cond-mat/9502109.
- [175] C.G. Callan, I.R. Klebanov, J.M. Maldacena and A. Yegulalp, “Magnetic Fields and Fractional Statistics in Boundary Conformal Field Theory,” *Nucl. Phys.* **B443**, 444 (1995) hep-th/9503014.
- [176] C.G. Callan, I.R. Klebanov, A.W. Ludwig and J.M. Maldacena, “Exact Solution of a Boundary Conformal Field Theory,” *Nucl. Phys.* **B422**, 417 (1994) hep-th/9402113.
- [177] G. Aldazabal, M. Bonini and J.M. Maldacena, “Factorization and Discrete States in  $C = 1$  SuperLiouville Theory,” *Int. J. Mod. Phys.* **A9**, 3969 (1994) hep-th/9209010.
- [178] G. Aldazabal and J.M. Maldacena, “On the Quantization of the  $N=2$  Supersymmetric Nonlinear Sigma Model,” *Int. J. Mod. Phys.* **A8**, 3359 (1993) hep-th/9203036.

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