



# Hossein Yavartanoo

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## *Curriculum Vitae*

### Personal Information

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### Education

2003 **Ph.D.**, *Physics Department of Sharif University of Technology*, Tehran-Iran  
First Class Honours

### Ph.D. Thesis

Title *Gauge fields from string theory*  
Supervisors Professor Hessameddin Arfaei

### Work Experience

2020-present **Research Fellow**, BIMSA, Beijing Institute of Mathematical Sciences And Applications, China

2014-2020 **Senior Research Associate**, ITP/CHINESE ACADEMY OF SCIENCES, Beijing, China

2010-2014 **Assistant Professor**, KYUNGHEE UNIVERSITY, Seoul, South-Korea

2008-2010 **Postdoctoral Researcher**, KIAS, Seoul, South-Korea

2006-2008 **Postdoctoral Researcher**, SEOUL NATIONAL UNIVERSITY, Seoul, South-Korea

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## Awards

- 2021 NITHeP research grant, South-Africa (One year)
- 2016 NRFC research grant, China (four years)
- 2012 Awarded Research grant, CQeST/Korea
- 2012 Awarded Research grant, APCTP, Korea
- 2011-2014 Awarded Research grant, NRF, Korea
- 2003-2005 Awarded Research Fellowship, IPM, Tehran, Iran
- 2003 Honoured and awarded as the outstanding Ph.D. graduated, SUT.
- 1998-2003 Awarded substantial research fellowship, IPM, Tehran, Iran
- 2001-2003 Awarded research fellowship, SUT, Iran
- 1996 Winner of the National Physics Olympiad , Iran
- 1995 Winner of the First National Physics Competition for undergraduate student, Iran

## Schools and visiting Institutes

- Nov 2017 Perimeter Institute, Canada
- May 2016 Asian Pacific Centre for Theoretical Physics, Korea
- March 2016 International Centre for Theoretical Physics (ICTP), Italy
- Aug. 2014 Korea Institute for Advanced Study), Korea
- Aug. 2013 International Centre for Theoretical Physics (ICTP), Italy
- July 2013 LPTHE, France
- May 2009 Harvard University, USA
- Aug. 2008 CERN, Switzerland-France
- Jan. 2006 International Centre for Theoretical Physics (ICTP), Italy

## Supervision

Two PhD students defended their thesis successfully, on projects we accomplished together.

Sangheon Yun, 2008

Saeedeh Sadeghian, 2016

## Professional Society Membership

Managing Editor of Journal: Advances in Theoretical and Mathematical Physics

Referring for Journals: JHEP, EJPC, NPB, EPL.

Physics Society of Iran

## Organising International Workshops

Physics @ Boundaries, 2022, Beijing, China

String Data, 2021, Johannesburg, South-Africa

$H_0$  tension and Swampland: theory confronts reality, Asian Pacific Centre for Theoretical Physics, South-Korea 2018

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International Workshop on Quantum Aspects of Black Holes, 2013, Seoul, South-Korea

Johns Hopkins Workshop New Perspectives in String Theory, 2008, Seoul, South-Korea

## Publications and Preprints

1. Vahid Taghiloo, H. Adami, M.M. Sheikh-Jabbari, H. Yavartanoo, C. Zwickel "Symmetries at Null Boundaries: 3-dimensional Einstein gravity" PoS Regio2021 (2022) 008 Contribution to: Regio2021, 008
2. Shahin Sheikh-Jabbari, Hamed Adami, Vahid Taghiloo, Hossein Yavartanoo "Null Surface Thermodynamics" PoS Regio2021 (2022) 034 Contribution to: Regio2021, 034
3. H. Adami, Pujian Mao, M.M. Sheikh-Jabbari, V. Taghiloo, H. Yavartanoo "Symmetries at causal boundaries in 2D and 3D gravity" JHEP 05 (2022) 189
4. H. Adami, M.M. Sheikh-Jabbari, V. Taghiloo, H. Yavartanoo "Null surface thermodynamics" Phys.Rev.D 105 (2022) 6, 066004
5. H. Adami, D. Grumiller, M.M. Sheikh-Jabbari, V. Taghiloo, H. Yavartanoo, C. Zwickel "Null boundary phase space: slicings, news & memory" JHEP 11 (2021) 155
6. H. Adami, M.M. Sheikh-Jabbari, V. Taghiloo, H. Yavartanoo, C. Zwickel, "Chiral Massive News: Null Boundary Symmetries in Topologically Massive Gravity" , JHEP 05 (2021) 261
7. H. Adami, M.M. Sheikh-Jabbari, V. Taghiloo, H. Yavartanoo, C. Zwickel, "Symmetries at null boundaries: two and three dimensional gravity cases" , JHEP 10 (2020) 107
8. A. Banerjee, E.O. Colgain, J.A. Rosabal, H. Yavartanoo , "Ehlers as EM duality in the double copy" , Phys.Rev.D 102 (2020) 126017
9. Eoin O. Colgain, Hossein Yavartanoo, "Testing the Swampland:  $H_0$  tension" Phys.Lett. B797 (2019) 134907
10. Thiago Araujo, Eoin O Colgain, Yuho Sakatani, M.M. Sheikh-Jabbari, Hossein Yavartanoo, "Holographic integration of  $TT\bar{T}$  &  $J\bar{T}$  via  $O(d, d)$ " JHEP 1903 (2019) 168
11. Eoin O. Colgain, Maurice H.P.M. van Putten, Hossein Yavartanoo. " $H_0$  tension and the de Sitter Swampland" Phys.Lett. B793 (2019) 126-129
12. Thiago Araujo, Eoin O Colgain, Hossein Yavartanoo "Embedding the modified CYBE in Supergravity" Eur.Phys.J. C78 (2018) no.10, 854
13. K. Hajian, M.M. Sheikh-Jabbari, H. Yavartanoo, , "NHEK Fluffs: Microstates of Extremal Kerr Black Holes" to appear.
14. I. Bakhmatov, E. O Colgain, M. M. Sheikh-Jabbari, H. Yavartanoo, "Yang-Baxter Deformations Beyond Coset Spaces (a slick way to do TsT)", JHEP 1806 (2018) 161.
15. K. Hajian, M.M. Sheikh-Jabbari, H. Yavartanoo, "Fluffing Extreme Kerr", Phys.Rev. D98 (2018) no.2, 026025.
16. T. Araujo, I. Bakhmatov, N. S. Deger, J. Gutowski, E. O Colgain, H. Yavartanoo, "Calibrated Entanglement Entropy", JHEP 1707 (2017) 117.
17. H. Afshar, D. Grumiller, M.M Sheikh-Jabbari and H. Yavartanoo, "Horizon fluff, semi-classical black hole microstates Log-corrections to BTZ entropy and black hole/particle correspondence" JHEP08 (2017) 087.
18. E. Ó. Colgin and H. Yavartanoo, "Banados and SUSY: On Supersymmetry and Minimal Surfaces

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- of Locally AdS<sub>3</sub> Geometries” *Class.Quant.Grav.* 34 (2017) no.9, 095008
19. M. M. Sheikh-Jabbari and H. Yavartanoo, “Horizon Fluffs: Near Horizon Soft Hairs as Microstates of Generic AdS<sub>3</sub> Black Holes” *Phys.Rev. D* 95 (2017) no.4, 044007
  20. M.M. Sheikh-Jabbari, H. Yavartanoo, “Excitation Entanglement Entropy in 2d Conformal Field Theories”, *Phys.Rev. D* 94 (2016) no.12, 126006
  21. M.M. Sheikh-Jabbari, H. Yavartanoo, “On 3d Bulk Geometry of Virasoro Coadjoint Orbits: Orbit invariant charges and Virasoro hair on locally AdS<sub>3</sub> geometries”, *Eur. Phys. J. C* 76, no. 9, 493 (2016)
  22. S. Sadeghian, M.M. Sheikh-Jabbari, M.H. Vahidinia, H. Yavartanoo, “Three Theorems on Near Horizon Extremal Vanishing Horizon Geometries”, *Phys.Lett. B* 753 (2016) 488-492
  23. S. Sadeghian, H. Yavartanoo, “Black Rings in U(1)<sup>3</sup> Supergravity and their dual 2d CFT”, *Class. Quant. Grav.* 33, no. 9, 095006 (2016)
  24. S. Sadeghian, M.M. Sheikh-Jabbari, M.H. Vahidinia, H. Yavartanoo, “Near Horizon Structure of Extremal Vanishing Horizon Black Holes”, *Nucl.Phys. B* 900 (2015) 222-243
  25. S. Sadeghian, M.M. Sheikh-Jabbari, H. Yavartanoo, “On Classification of Geometries with SO(2,2) Symmetry”, *JHEP* 10 (2014) 081
  26. Eoin Ó Colgáin, M.M. Sheikh-Jabbari, Justin F. Vazquez-Poritz, Hossein Yavartanoo, Zhibai Zhang, “Warped Ricci-flat reductions”, *Phys. Rev. D* 90, 045013 (2014)
  27. M. M. Sheikh-Jabbari, Hossein Yavartanoo, “On Quantization of AdS<sub>3</sub> Gravity I: Semi-Classical Analysis” *JHEP* 07(2014)104
  28. Mohsen Alishahiha and Hossein Yavartanoo, “Conformally Lifshitz solutions from Horava-Lifshitz Gravity” *Class.Quant.Grav.* 31 (2014) 095008.
  29. Maria Johnstone, M.M. Sheikh-Jabbari Joan Simon and H. Yavartanoo, “Extremal Black Holes, Their Dual CFT’s and the First Law of Thermodynamics, *Phys. Rev. D* 88, 101503 (2013).
  30. Maria Johnstone, M.M. Sheikh-Jabbari Joan Simon and H. Yavartanoo, “Near- Extremal Vanishing Horizon AdS<sub>5</sub> Black Holes and Their CFT Duals”, *JHEP* 04(2013)045.
  31. Eoin Ó Colgáin, M. Alishahiha and H. Yavartanoo, “Charged Black Branes with Hyperscaling Violating Factor”, *JHEP* 1211 (2012) 137
  32. M. Alishahiha and H. Yavartanoo, “On Holography with Hyperscaling Violation” *JHEP* 1211 (2012) 034.
  33. H. Yavartanoo, “On EVH black hole solution in Heterotic string theory”, *Nucl.Phys. B* 863 (2012) 410-420.
  34. H. Yavartanoo “Five dimensional heterotic black holes and its dual IR-CFT”, *Eur. Phys. J. C* (2012) 72:2197
  35. H. Yavartanoo “On Heterotic Black Holes and EVH/CFT Correspondence”, *Eur. Phys. J. C* (2012) 72:2256
  36. Hossein Yavartanoo, “EVH black hole solutions with higher derivative corrections”, *Eur.Phys.J. C* 72 (2012) 1911.
  37. Ilya Bakhmatov, Eoin Ó Colgáin, Hossein Yavartanoo, “Fermionic T-duality in the pp-wave limit”, *JHEP* 1110:085, 2011
  38. Shahin Sheikh-Jabbari and Hossein Yavartanoo, “AdS<sub>3</sub> throat for EVH black holes”, *JHEP* 1110:085, 2011
  39. Eoin Ó Colgáin, Jun-Bao Wu, Hossein Yavartanoo “On the generality of the LLM geometries in M-theory”, *JHEP* 1104:002,2011
  40. Eoin Ó Colgáin, Jun-Bao Wu, Hossein Yavartanoo “Supersymmetric AdS<sub>3</sub> X S<sup>2</sup> M-theory geometries with fluxes”, *JHEP* 1008:114,2010

41. Eoin Ó Colgáin, Jun-Bao Wu, Hossein Yavartanoo “N = 2 SCFTs: An M5-brane perspective” JHEP 1004:078,2010
42. Jae Hoon Jeong, Hee-Cheol Kim, Sangmin Lee, Eoin Ó Colgáin, Hossein Yavartanoo “Schrodinger invariant solutions of M-theory with Enhanced Supersymmetry”, JHEP 1003:034,2010
43. Eoin Ó Colgáin, Oscar Varela, Hossein Yavartanoo “Non-relativistic M-Theory solutions based on Kaehler-Einstein spaces” JHEP 0907:081,2009
44. Eoin Ó Colgáin, Hossein Yavartanoo “Dyonic solution of Horava-Lifshitz Gravity” JHEP 0908:021,2009
45. Eoin Ó Colgáin, Hossein Yavartanoo “ Positronium-like states from supergravity” Nucl.Phys.B822:219-229,2009
46. Eoin Ó Colgáin, Hossein Yavartanoo “NR CF T3 duals in M-theory” JHEP 0909:002,2009
47. Ki-Myeong Lee, Eoin Ó Colgáin, Hossein Yavartanoo, K.P. Yogendran “BPS D0-D6 Branes in Supergravity” JHEP 0903:009,2009
48. Kevin Goldstein, Hossein Yavartanoo, “A note on non-linear electrodynamics, regular black holes and the entropy function” [arXiv:0711.3374].
49. Hossein Yavartanoo, Sangheon Yun, “Higher derivative correction to Kaluza-Klein black hole solution” Eur.Phys.J.C57:797-808,2008
50. Dumitru Astefanesei, Horatiu Nastase, Hossein Yavartanoo, Sangheon Yun, “Moduli flow and non-supersymmetric AdS attractors” JHEP 0804:074,2008.
51. D. Astefanesei, H. Yavartanoo, “Stationary black holes and attractor mechanism” Nucl.Phys.B794:13-27,2008.
52. B. Chandrasekhar and H. Yavartanoo, S. Yun, “Non-Supersymmetric Attractors in BI black holes” Phys.Lett.B660:392-401,2008.
53. B. Chandrasekhar S. Parvizi, A. Tavanfar and H. Yavartanoo “Non-Supersymmetric Attractor in R2 Gravities” JHEP 0608 (2006) 004
54. Mohsen Alishahiha and Hossein Yavartanoo “On 1/2 BPS solutions in M-theory” published in Int.J.Mod.Phys.A
55. Mohsen Alishahiha, Batool Safarzadeh and Hossein Yavartanoo, “On Supergravity Solutions of Branes in Melvin Universes” JHEP 0601:153,2006
56. Hossein Yavartanoo, “Cosmological Solution from D-brane motion in NS5- branes background” Int.J.Mod.Phys.A20:7633-7645,2005
57. Mohsen Alishahiha, Amir E. Mosaa and Hossein Yavartanoo, “Multi-spin string solutions in AdS Black Hole and conning backgrounds” Nucl.Phys. B686 (2004) 53-74
58. Mohsen Alishahiha and Hossein Yavartanoo, “On the Multi Trace Superpotential and Corresponding Matrix Model” Eur.Phys.J. C32 (2004) 575-582
59. Mohsen Alishahiha and Hossein Yavartanoo, “Supergravity Description of the Large N Noncommutative Dipole Field Theories” JHEP 0204 (2002) 031
60. Hessamaddin Arfaei and Hossein Yavartanoo, “Phenomenological Consequences of Non-commutative” QED [arXiv: hep-th/0010244]

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