CURRICULUM VITAE

Chanyong Park

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PERSONAL

Birth: November 6, 1971
Nationality: Republic of Korea

EDUCATION

Ph.D. Physics, earned Feburary 2002, Hanyang University, Seoul, Korea
Research Area: Particle theory
Ph.D.Thesis: Cosmology in String Theory
Advisor : Prof. Sang-Jin Sin

M.S. Physics, February 1996, Hanyang University, Seoul, Korea

B.S. Physics, February 1994, Hanyang University, Seoul, Korea

EMPLOYMENT

Professor, March 2018 - Current
Gwangju Institute of Science and Technology (GIST), Gwangju, Korea

Junior Research Group leader, October 2015 - February 2018
Asia Pacific Center for Theoretical Physics (APCTP), Pohang, Korea

Research Professor, September 2014 - October 2015
Center for Quantum Spacetime (CQUeST), Sogang University, Korea

Postdoctoral Fellow, September 2013 - August 2014
Institute for the Early Universe (IEU), Ewha Womans University, Korea

Assistant Professor, September 2010 - August 2013
Center for Quantum Spacetime (CQUeST), Sogang University, Korea

Research Professor, May 2009 - August 2010
Center for Quantum Spacetime (CQUeST), Sogang University, Korea

Postdoctoral Fellow, September 2008 - May 2009
National Institute for Mathematical Sciences, Korea

Postdoctoral Fellow, September 2005 - August 2008
Center for Quantum Spacetime (CQUeST), Sogang University, Korea

Postdoctoral Associate, March 2002 - July 2005
the Research Institute for Basic Science, Sogang University, Korea

RESEARCH TOPICS

My interests are to understand the AdS/CFT correspondence in depth and to generalize it to the gauge/gravity duality defined on the non-AdS geometry. Those researches will be helpful to investigate the physical properties of a strongly interacting system like quantum chromodynamics (QCD) and condensed matter theory (CMT). Furthermore, by using the concepts and technologies obtained in these researches I try to understand the nonperturbative renormalization group (RG) flow of an interacting quantum field theory (QFT).

MEMBERSHIPS

Korean Physical Society (Since 1995)

LIST OF PUBLICATIONS

1. Hyun Seok Yang, Bum-Hoon Lee and Chanyong Park, "Thermodynamic Properties of Generalized Exclusion Statistics", J. Korean Phys. Soc. **30** (1997) 14.

2. Chanyong Park and Sang-Jin Sin, "p-brane cosmology and phases of Brans-Dicke theory with matter", Phys. Rev. **D57** (1998) 4620.

3. Chanyong Park and Sang-Jin Sin, "Notes on D-instanton correction to AdS(5) X S**5 geometry", Phys. Lett. **B444** (1998) 156.

4. Chanyong Park Sang-Jin Sin, "Phases of the Brans-Dicke Cosmology with Matter", J. Korean Phys. Soc. **34** (1999) 463.

5. Jae-weon Lee, Seoktae Koh, Chanyong Park, Sang Jin Sin, and Chul H. Lee, "Oscillating inflation with a nonminimally coupled scalar field", Phys. Rev. **D61** (1999) 27301.

6. Chanyong Park, Sang-Jin Sin and Sunggeun Lee, "Cosmology with the Dp-brane gas", Phys. Rev. **D61** (2000) 083514.

7. Chanyong Park and Sang-Jin Sin, "Moving domain walls in AdS and graceful exit from inflation", Phys. Lett **B 485** (2000) 239.

8. Kyung-Seok Cha, Bum-Hoon Lee and Chanyong Park, "dS/CFT Correspondence from the Brick Wall Method", J. Korean Phys. Soc. **42** (2003) 735.

9. Chan Yong Park, "Open String Spectrum in a pp-Wave Background", J. Korean Phys. Soc. **44** (2004) 235.

10. Jongwook Kim, Bum-Hoon Lee and Chanyong Park, "Two-point Correlation Function of the Sine-Liouville Theory", J. Korean Phys. Soc. **46** (2005) 1311.

11. Bum-Hoon Lee, Jong-won Lee, Chanyong Park and Hyun Seok Yang, "More on supersymmetric D-branes in type IIB plane wave background", J. High Energy Phys. **0601** (2006) 015.

12. Wonwoo Lee, Bum-Hoon Lee, Chul H. Lee and Chanyong Park, "False vacuum bubble nucleation due to nonminimally coupled scalar field", Phys. Rev. **D 74** (2006) 123520.

13. Bum-Hoon Lee, Chanyong Park and Chaiho Rim, "Two-point Function in Sine-Liouville Theory", J. Korean Phys. Soc. **50** (2007) S49.

14. Wonwoo Lee, Chanyong Park, Bum-Hoon Lee and Chul H. Lee, "The Gravity Effect on the Nucleation Rate of a Vacuum Bubble", J. Korean Phys. Soc. **50** (2007) S85.

15. Bum-Hoon Lee, Wonwoo Lee, Siyoung Nam and Chanyong Park, "Domain wall cosmology and multiple accelerations", Phys. Rev. **D 75** (2007) 103506.

16. Youngman Kim, Bum-Hoon Lee, Chanyong Park and Sang-Jin Sin, "Gluon condensation at finite temperature via AdS/CFT", J. High Energy Phys. **0709** (2007) 105.

17. Youngman Kim, Bum-Hoon Lee, Siyoung Nam, Chanyong Park and Sang-Jin Sin, "Deconfinement phase transition in holographic QCD with matter", Phys. Rev. **D 76** (2007) 086003.

18. O-Kab Kwon, Bum-Hoon Lee, Chanyong Park and Sang-Jin Sin, "Fluctuations around the tachyon vacuum in open string field theory", J. High Energy Phys. **0712** (2007) 038.

19. Bum-Hoon Lee, Chul H. Lee, Wonwoo Lee, Siyoung Nam and Chanyong Park, "Dynamics of false vacuum bubbles with nonminimal coupling", Phys. Rev. **D 77** (2008) 063502.

20. Bum-Hoon Lee, Rashmi R. Nayak, Kamal L. Panigrahi and Chanyong Park, "On the giant magnon and spike solutions for strings on AdS(3) X S**3", J. High Energy Phys. **0806** (2008) 065.

21. J. Kluson, Bum-Hoon Lee, Kamal L. Panigrahi and Chanyong Park, "Magnon like solutions for strings in I-brane background", J. High Energy Phys. **0808** (2008) 032.

22. Bum-Hoon Lee, Chul H. Lee, Wonwoo Lee, Siyoung Nam and Chanyong Park, "Effect of Nonminimal Coupling on the Dynamics of Vacuum Bubbles", J. Korean Phys. Soc. **53** (2008) 1100.

23. Bum-Hoon Lee, Chanyong Park and D. D. Tolla, "Marginal Deformations as Lower Dimensional D-Brane Solutions in Open String Field Theory", J. Korean Phys. Soc. **53** (2008) 1770.

24. Bum-Hoon Lee, Kamal L. Panigrahi and Chanyong Park, "Spiky strings on AdS(4) X CP**3", J. High Energy Phys. **0811** (2008) 066.

25. Bogeun Gwak, Bum-Hoon Lee, Kamal L. Panigrahi and Chanyong Park, "Semiclassical strings in AdS(3) X S**2", J. High Energy Phys. **0904** (2009) 071.

26. Bum-Hoon Lee, Chanyong Park and Sang-Jin Sin, "A Dual Geometry of the Hadron in Dense Matter", J. High Energy Phys. **0907** (2009) 087.

27. Youngman Kim, Bum-Hoon Lee, Chanyong Park, and Sang-Jin Sin, "The Effect of gluon condensate on holographic heavy quark potential", Phys. Rev. **D 80** (2009) 105016.

28. Chanyong Park, "Dissociation of a heavy meson in the quark medium", Phys. Rev. **D 81** (2010) 045009.

29. John J. Oh and Chanyong Park, "Gravitational collapse of the shells with the smeared gravitational source in noncommutative geometry", J. High Energy Phys. **1003** (2010) 086.

30. Yumi Ko, Bum-Hoon Lee and Chanyong Park, "Meson spectra in a gluon condensate background", J. High Energy Phys. **1004** (2010) 037.

31. Kwanghyun Jo, Bum-Hoon Lee, Chanyong Park and Sang-Jin Sin, "Holographic QCD in medium: a bottom up approach", J. High Energy Phys. **1006** (2010) 022.

32. Bum-Hoon Lee and Chanyong Park, "Unbounded Multi-magnon and Spike", J. Korean Phys. Soc., **57** (2010) 30.

33. Bum-Hoon Lee, Da-Wei Pang and Chanyong Park, "Strange metallic behavior in anisotropic background", J. High Energy Phys. **1007** (2010) 057.

34. Bum-Hoon Lee, Da-Wei Pang and Chanyong Park, "Zero Sound in Effective Holographic Theories", J. High Energy Phys. **1011** (2010) 120.

35. Bum-Hoon Lee, Chanyong Park and Sunyoung Shin, "Holographic 1/Nc correction from the chiral condensate", J. High Energy Phys. **1012** (2010) 071.

36. Bum-Hoon Lee, Siyoung Nam, Da-Wei Pang, Chanyong Park, "Conductivity in the anisotropic background", Phys. Rev. **D 83** (2011) 066005.

37. John J. Oh, Chanyong Park, Hyun Seok Yang, "Yang-Mills Instantons from Gravitational Instantons", J. High Energy Phys. **1104** (2011) 087.

38. Chanyong Park and Bum-Hoon Lee, "Correlation functions of magnon and spike", Physical Review D 83 (2011) 126004.

39. Bum-Hoon Lee, Da-Wei Pang, and Chanyong Park, "A HOLOGRAPHIC MODEL OF STRANGE METALS", International Journal of Modern Physics A Vol. 26, No. 14 (2011) 2279.

40. Bum-Hoon Lee, Xiaojian Bai and Chanyong Park, "Correlation function of dyonic strings", Physical Review D 84 (2011) 026009.

41. Chanyong Park, Do-Young Gwak, Bum-Hoon Lee, Yumi Ko, and Sunyoung Shin, "Soft wall model in the hadronic medium", Physical Review D 84 (2011) 046007.

42. Yun Soo Myung and Chanyong Park, "Holographic superconductor in the analytic hairy black hole", Physics Letters B 704 (2011) 242.

43. Bum-Hoon Lee and Chanyong Park, "Finite size effect on the magnons correlation functions", Physical Review D 84 (2011) 086005.

44. Chanyong Park, "Holographic symmetry energy of the nuclear matter", Physics Letters B 708 (2012) 324.

45. Chanyong Park, Bum-Hoon Lee, and Sunyoung Shin, "Holographic meson spectra in a dense medium with chiral condensate", Physical Review D 85 (2012) 106005.

46. Ya-Peng Hu and Chanyong Park, "Chern-Simons effect on the dual hydrodynamics in the Maxwell-Gauss-Bonnet gravity", Physics Letters B 714 (2012) 324.

47. Shailesh Kulkarni, Bum-Hoon Lee, Chanyong Park, and Raju Roychowdhury, "Non-conformal Hydrodynamics in Einstein-dilaton Theory", Journal of High Energy Physics 09 (2012) 004.

48. Shailesh Kulkarni, Bum-Hoon Lee, Jae-Hyuk Oh, Chanyong Park and Raju Roychowdhury, "Transport in non-conformal holographic fluids", Journal of High Energy Physics 03 (2013) 149.

49. George Georgiou, Bum-Hoon Lee and Chanyong Park, "Correlators of massive string states with conserved currents", Journal of High Energy Physics 03 (2013) 167.

50. Bum-Hoon Lee, Bogeun Gwak and Chanyong Park, "Correlation functions of the Aharony-Bergman-Jafferis-Maldacena model", Physical Review D 87 (2013) 086002.

51. Bum-Hoon Lee, Shahin Mamedov, Siyoung Nam and Chanyong Park, "Holographic meson mass splitting in the nuclear matter", Journal of High Energy Physics 08 (2013) 045.

52. Chanyong Park, "Holographic Aspects of a Relativistic Nonconformal Theory", Advances in High Energy Physics 2013 (2013) 389541.

53. Jakob Hansen, Bum-Hoon Lee, Chanyong Park and Dong-han Yeom "Inside and outside stories of black-branes in anti de Sitter space", Classical and Quantum Gravity 30 (2013) 235022.

54. Chanyong Park, "Massive quarsinormal mode in the holographic Lifshitz theory", Physical Review D 89 (2014) 066003.

55. Chanyong Park, "Notes on the Holographic Lifshitz Theory", Advances in High Energy Physics 2014 (2014) 917632.

56. Kyung Kiu Kim, O-Kab Kwon, Chanyong Park, and Hyeonjoon Shin, "Renormalized entanglement entropy flow in mass-deformed ABJM theory", Physical Review D 90 (2014) 046006.

57. Chanyong Park, "Holographic renormalization in dense medium", Advances in High Energy Physics 2014 (2014) 565219.

58. Chanyong Park, "Review of the Holographic Lifshitz Theory", International Journal of Modern Physics A Vol. 29 , No. 24 (2014) 1430049.

59. Bum-Hoon Lee, Shahin Mamedov, and Chanyong Park, "Nucleon mass splitting in the isospin medium", International Journal of Modern Physics A Vol. 29, No. 29 (2014) 1450170.

60. Kyung Kiu Kim, O-Kab Kwon, Chanyong Park, and Hyeonjoon Shin, "Holographic entanglement entropy of mass-deformed Aharony-Bergman-Jafferis-Maldacena theory", Physical Review D 90 (2014) 126003.

61. Bum-Hoon Lee, Chanyong Park, and Siyoung Nam, "Properties of holographic mesons on dense medium", Journal of High Energy Physics 05 (2015) 011.

62. Bum-Hoon Lee and Chanyong Park, "Holographic Nucleons in the Nuclear Medium", Physics Letters B 746 (2015) 202.

63. Chanyong Park, "Holographic entanglement entropy in the nonconformal medium", Physical Review D 91 (2015) 126003.

64. Chanyong Park, "Logarithmic corrections to the entanglement entropy", Physical Review D 92 (2015) 126013.

65. Chanyong Park, "Thermodynamic law from the entanglement entropy bound", Physical Review D 93 (2016) 086003.

66. Ki-Seok Kim and Chanyong Park, "Emergent geometry from field theory: Wilson's renormalization group revisited", Physical Review D 93 (2016) 121702.

67. Chanyong Park, "Meson's Correlation Functions in a Nuclear Medium", Physics Letters B 760 (2016) 79.

68. Sunly Khimphun, Bum-Hoon Lee, and Chanyong Park, "Conductivities in an anisotropic medium", Physical Review D 94 (2016) 086005.

69. Chanyong Park, On black hole thermodynamics with a momentum relaxation, Classical and Quantum Gravity 33 (2016) 245017.

70. Bum-Hoon Lee, Siyoung Nam and Chanyong Park, Holographic trace anomaly at finite temperature, Journal of the Korean Physical Society, Vol. 70, No. 1 (2017) 34.

71. Ki-Seok Kim and Chanyong Park, "Renormalization group flow of entanglement entropy to thermal entropy", Physical Review D 95 (2017) 106007.

72. Youngman Kim, Bum-Hoon Lee, D.G. Pak, Chanyong Park, and Takuya Tsukioka, Quantum stability of nonlinear wave type solutions with intrinsic mass parameter in QCD, Physical Review D 96 (2017) 054025.

73. Sunly Khimphun, Bum-Hoon Lee, Chanyong Park, and Yun-Long Zhang, Anisotropic dyonic black brane and its effects on holographic conductivity, Journal of High Energy Physics 1710 (2017) 064.

74. Ki-Seok Kim, Miok Park, Jaeyoon Cho, and Chanyong Park, Emergent geometric description for a topological phase transition in the Kitaev superconductor model, Physical Review D 96 (2017) 086015.

75. Yunseok Seo, Geunho Song, Chanyong Park, and Sang-Jin Sin, Small Fermi Surfaces and Strong Correlation Effects in Dirac Materials with Holography, Journal of High Energy Physics 1710 (2017) 204.

76. Bum-Hoon Lee, Chanyong Park and, Sunyoung Shin, Vacua and Walls of mass-deformed Kähler nonlinear sigma models on SO(2N)/U(N), Physical Review D 96 (2017) 105017.

77. Sunly Khimphun, Bum-Hoon Lee, Chanyong Park, Yun-Long Zhang, "Rindler fluid with weak momentum relaxation", Journal of High Energy Physics 01 (2018) 058.

78. Chanyong Park and Jung Hun Lee, "Nucleon form factors in the nuclear medium", International Journal of Modern Physics A Vol. 33, No. 2 (2018) 1850016.

79. Masato Arai, Anastasia Golubtsova, Chanyong Park, and Sunyoung Shin, "Vacua and walls of mass-deformed Kähler nonlinear sigma models on Sp(N)/U(N)", Physical Review D 97 (2018) 105012.

80. Chanyong Park, Daeho Ro, and Jung Hun Lee, "c-theorem of the entanglement entropy", Journal of High Energy Physics 11 (2018) 165.

81. Chanyong Park, "Holographic Entanglement Entropy in Cutoff AdS", International Journal of Modern Physics A Vol. 33 No. 36 (2018) 1850226.

82. Rajesh Narayanan, Chanyong Park, and Yun-Long Zhang, Holographic approach to entanglement entropy in disordered systems, Physical Review D 99 (2019) 046019.

83. Kyung Kiu Kim, Chanyong Park, Jung Hun Lee, and Byoungjoon Ahn, "Holographic Entanglement Entropy with Momentum Relaxation", European Physical Journal C 79 (2019) no.5, 377.

84. Ki-Seok Kim, Suk Bum Chung, Chanyong Park, and Jae-Ho Han, Emergent holographic description for the Kondo effect: Comparison with Bethe ansatz, Physical Review D 99 (2019) 105012.

85. Chanyong Park and Jung Hun Lee, "Exotic RG flow of entanglement entropy", Physical Review D 101 (2020) 086008.

86. Chanyong Park, "Time evolution of entanglement entropy in holographic FLRW cosmologies", Physical Review D 101 (2020) 126006.

87. Seoktae Koh, Jung Hun Lee, Chanyong Park, and Daeho Ro, "Quantum entanglement in inflationary cosmology", European Physical Journal C 80 (2020) no.8, 724.

88. Chanyong Park and Jung Hun Lee, "Holographic renormalization group flow effect on quantum correlations", Journal of High Energy Physics 02 (2021) 135.

89. Chanyong Park, "Time-dependent quantum correlations in two-dimensional expanding spacetime", European Physical Journal C 81 (2021) 521.

90. Chanyong Park, "Holographic RG flow triggered by a classically marginal operator", Physical Review D 105 (2022) 046004.

91. Chanyong Park, Chi-Ok Hwang, Kyungchan Cho, and Se-Jin Kim, "Dual geometry of entanglement entropy via deep learning", Physical Review D 106 (2022) 106017.

92. Chanyong Park and Jung Hun Lee, Quantum correlation in quark-gluon medium, Journal of the Korean Physical Society, 82 (2023) 1.

93. Chanyong Park, "Holographic time-dependent entanglement entropy in p-brane gas geometries", Physics letter B 838 (2023) 137672.

94. Chanyong Park, Gitae Kim, Ji-seong Chae and Jae-Hyuk Oh, "Holographic entanglement entropy probe on spontaneous symmetry breaking with vector order", Journal of High Energy Physics 02 (2023) 182,