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**Kiril P. Hristov**

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**Date/Place of Birth**: 30 March 1985, Sofia, Bulgaria

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## Education and Professional Career

*Bulgarian Academy of Sciences, Sofia, Bulgaria*

Institute of Nuclear Research and Nuclear Energy

October 2015 - present

- Postdoctoral researcher, research group “Theory of Elementary Particles”

*Università di Milano-Bicocca, Italy*

Theoretical Physics Group

September 2012 - September 2015

- Postdoctoral researcher (research group leaders: Alessandro Tomasiello, Alberto Zaffaroni)

*Doctor of Philosophy, Theoretical Physics*

Utrecht University, Netherlands

September 2008 - August 2012

- Thesis: Lessons from Classical Solutions of  $D = 4$   $N = 2$  Supergravity (supervisor: Stefan Vandoren)

*Master of Science cum laude, Theoretical Physics*

Utrecht University, Netherlands

September 2006 - August 2008

- Main studies: Advances Physics, Advanced Mathematics and Modeling
- Thesis: On Moduli Stabilization in Type IIB String Theory (supervisor: Stefan Vandoren)

*Max Planck Institute for Nuclear Physics, Heidelberg, Germany*

Group of Quantum Dynamics in Intense Laser Fields

June - August 2005

- Internship in the field of Above Threshold Ionization (supervisor: Dieter Bauer)

*Bachelor of Science, Physics*

Jacobs University (former International University Bremen), Germany

September 2003 - June 2006

- Main studies: Physics, Mathematics, Computer Science, Geology and Astronomy
  - Thesis: Black Holes in 5 Dimensions (supervisor: Betti Hartmann)
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## Teaching and Professional Experience

*Sofia University, Bulgaria*

2016-present

- Teaching the *Quantum Field Theory* and *Advanced Quantum Field Theory* courses in the master's programme in theoretical physics

*Università di Milano-Bicocca, Italy*

2013 - 2015

- Partial supervision of a PhD student, *Andrea Rota*, with main supervisor Prof. Alessandro Tomasiello

*Utrecht University, Netherlands*

2007 - 2012

- Teaching assistant for the master level courses *Quantum Field Theory*, *Advanced Field Theory in Particle Physics*, *General Relativity*, and *Statistical Field Theory*

*Max Planck Institute for Nuclear Physics, Heidelberg, Germany*

Group of Quantum Dynamics in Intense Laser Fields

June - August 2005

- Internship as a project student in the field of Above Threshold Ionization (ATI), under the supervision of Dieter Bauer

*Jacobs University, Bremen, Germany*

2004 - 2006

- Teaching assistant for the bachelor level courses *General Physics*, *Advanced Physics A1 (Classical Mechanics and Special Relativity)*, and *Advanced Physics A2 (Quantum Mechanics)*
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## Conferences and Talks

*Conferences, Schools and Workshops*

- Sofia PhD school: New Trends in High Energy Theory, Bulgaria 16-20 October 2017
- Strings 2017, Tel Aviv, Israel 26-30 June 2017
- The String Theory Universe Conference, Milano, Italy 20-24 February 2017
- Third National Congress for Physical Sciences, Sofia, Bulgaria 29 September - 2 October 2016
- Theoretical Frontiers in Black Holes and Cosmology, Natal, Brazil 8-19 June 2015
- Eurostrings, Cambridge, United Kingdom 23-27 March 2015
- Black Objects Beyond Supersymmetry, Utrecht, Netherlands 1-3 September 2014
- Exact Quantum Fields and the Structure of M-theory, Heraklion, Greece 10-16 July 2014

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- Supersymmetric Theories on curved manifolds and Localization, Parma, Italy 4-6 November 2013
  - Spring School on Superstring Theory and Related Topics, Trieste, Italy March 2013, 2014
  - International School on Strings and Fundamental Physics, Hamburg, Germany 1-13 July 2012
  - XVII European Workshop on String Theory, Padua, Italy 5-9 September 2011
  - DRSTP School in Theoretical High Energy Physics and Jorge André Swieca Summer School, São Paulo, Brazil 6-18 February 2011
  - International Conference on Strings, M-Theory and Quantum Gravity, Ascona, Switzerland 25-30 July 2010
  - String Theory Workshop, Amsterdam, Netherlands 28 June - 9 July 2010
  - Brussels-Paris-Amsterdam PhD school, Belgium, France, Netherlands October-December 2009
  - Aegean Summer School - from Gravity to Thermal Gauge Theories: The AdS/CFT Correspondence, Milos island, Greece 21-26 September 2009
  - DRSTP School in Theoretical High Energy Physics, Driebergen, Netherlands 16-27 February 2009
  - Eurostrings, Amsterdam, Netherlands 30 June - 4 July 2008

*Talks and lectures*

- *Holographic duals of topological field theories*, Seminar, Milano-Bicocca, Italy, 2017
- *Black holes, superalgebras, and holography*, Lecture series, Sofia PhD school, Bulgaria, 2017
- *Black hole microstates in  $AdS_4$  and  $AdS_5$  from supersymmetric partition functions*, Seminar, Utrecht, Netherlands, 2017; Seminar, Saclay (IPhT), Paris, France, 2017; Seminar, Princeton, USA, 2017; Seminar, Columbia, New York, USA, 2017; Seminar, Leuven, Belgium, 2017
- *Black hole microstates in  $AdS_4$  from supersymmetric localization*, Seminar, DIAS Dublin, Ireland, 2016; Conference Talk, Sofia, Bulgaria, 2016; Seminar, Stony Brook, USA, 2016; Seminar, Columbia, New York, USA, 2016; Seminar, Leuven, Belgium, 2016
- *BPS black holes in 4d gauged supergravity and microscopics*, Conference talk, Natal, Brazil, 2015; Seminar, Leuven, Belgium, 2015
- *BPS black holes in 4d gauged supergravity*, Seminar, Sofia, Bulgaria, 2015
- *Magnetic black hole thermodynamics in  $AdS_4$  and dual field theory description*, Workshop talk, Utrecht, Netherlands, 2014
- *BPS black holes in  $AdS_4$  and their CFT duals*, Seminar, Utrecht, Netherlands, 2014; Seminar, King's College, London, UK, 2014
- *BPS black holes with  $AdS_4$  asymptotics*, Seminar, Saclay (IPhT), Paris, France, 2013

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- *Asymptotic charges and BPS bounds in 4d  $N = 2$  supergravity*, Seminar, Milano-Bicocca, Italy, 2013
  - *Superconformal field theories on de Sitter*, Seminar, Ecole Polytechnique, Paris, France, 2012
  - *A superalgebra perspective on four dimensional black holes*, Seminar, Padua, Italy, 2012
  - *On the causal structure of GR and the cosmic censorship conjecture*, PhD lunch talk, Utrecht, Netherlands, 2011
  - *On BPS Bounds in  $D = 4$   $N = 2$  Gauged Supergravity*, Conference talk, Padua, Italy, 2011
  - *Static Supersymmetric Black Holes in  $AdS_4$* , School talk, São Paulo, Brazil, 2011
  - *Black Holes in Supergravity*, PhD lunch talk, Utrecht, Netherlands, 2010
  - *Black Holes in  $N = 2$   $D = 4$  Gauged Supergravity*, Seminar, Utrecht, Netherlands, 2010
  - *BPS Solutions of  $D = 4$   $N = 2$  Gauged Supergravity*, Seminar, Utrecht, Netherlands, 2009
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## Prizes and Awards

- "Pythagoras" prize for excellent young scientist from the Bulgarian government 2017
  - Marie Skłodowska-Curie actions seal of excellence 2017
  - Huygens PhD research fund from the Dutch government 2008-2010
  - SHELL theoretical physics stipend, Netherlands 2008
  - Huygens scholarship from the Dutch government 2007-2008
  - Utrecht excellence scholarship, Utrecht University, Netherlands 2006-2007
  - Member of the president's list for academic excellence, Jacobs University, Germany 2006
  - Merit based scholarship, Jacobs University, Bremen, Germany 2003-2006
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## Publications

Summary: 22 publications, 20 published journal publications, 1 refereed conference proceeding, 1 published PhD thesis; 423 citations (110 self-cites), h-index  $h_{HEP} = 11$   
 (source: <http://inspirehep.net/author/profile/K.Hristov.1>)

- S. M. Hosseini, K. Hristov and A. Passias, *Holographic microstate counting for  $AdS_4$  black holes in massive IIA supergravity*, JHEP 1710 (2017) 190, arXiv:1707.06884 [hep-th], 11 citations

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- S. M. Hosseini, K. Hristov and A. Zaffaroni, *An extremization principle for the entropy of rotating BPS black holes in  $AdS_5$* , JHEP 1707 (2017) 106, arXiv:1705.05383 [hep-th], 5 citations
  - F. Benini, K. Hristov and A. Zaffaroni, *Exact microstate counting for dyonic black holes in  $AdS_4$* , Phys.Lett. B771 (2017) 462-466, arXiv:1608.07294 [hep-th], 24 citations
  - K. Hristov, S. Katmadas and I. Lodato, *Higher derivative corrections to BPS black hole attractors in 4d gauged supergravity*, JHEP 1605 (2016) 173, arXiv:1603.00039 [hep-th], 3 citations
  - F. Benini, K. Hristov and A. Zaffaroni, *Black hole microstates in  $AdS_4$  from supersymmetric localization*, JHEP 1605 (2016) 054, arXiv:1511.04085 [hep-th], 47 citations
  - K. Hristov, S. Katmadas, *Wilson lines for  $AdS_5$  black strings*, JHEP 1502 (2015) 009, arXiv:1411.2432 [hep-th], 1 citation
  - K. Hristov, A. Rota, *6d-5d-4d reduction of BPS attractors in flat gauged supergravities*, Nucl.Phys. B897 (2015) 213-228, arXiv:1410.5386 [hep-th], 5 citations
  - K. Hristov, *Dimensional reduction of BPS attractors in AdS gauged supergravities*, JHEP 1412 (2014) 066, arXiv:1409.8504 [hep-th], 7 citations
  - K. Hristov, A. Rota, *Attractors, black objects, and holographic RG flows in 5d maximal gauged supergravities*, JHEP 1403 (2014) 057, arXiv:1312.3275 [hep-th], 5 citations
  - A. Gnechchi, K. Hristov, D. Klemm, C. Toldo, and O. Vaughan, *Rotating black holes in 4d gauged supergravity*, JHEP 1401 (2014) 127, arXiv:1311.1795 [hep-th], 34 citations
  - K. Hristov, C. Toldo and S. Vandoren, *Phase transitions of magnetic  $AdS_4$  black holes with scalar hair*, Phys.Rev. D88 (2013) 026019, arXiv:1304.5187 [hep-th], 20 citations
  - K. Hristov, A. Tomasiello and A. Zaffaroni, *Supersymmetry on Three-dimensional Lorentzian Curved Spaces and Black Hole Holography*, JHEP 1305 (2013) 057, arXiv:1302.5228 [hep-th], 37 citations
  - K. Hristov, S. Katmadas and V. Pozzoli, *Ungauging black holes and hidden supercharges*, JHEP 1301 (2013) 110, arXiv:1211.0035 [hep-th], 21 citations
  - K. Hristov, *Lessons from the Vacuum Structure of 4d  $N=2$  Supergravity*, PhD thesis, supervisor Stefan Vandoren, arXiv:1207.3830 [hep-th], 8 citations
  - K. Hristov, C. Toldo and S. Vandoren, *Black branes in AdS: BPS bounds and asymptotic charges*, Fortsch.Phys. 60 (2012) 1057-1063, arXiv:1201.6592 [hep-th], 5 citations
  - K. Hristov, *On BPS Bounds in  $D=4$   $N=2$  Gauged Supergravity II: General Matter couplings and Black Hole Masses*, JHEP 1203 (2012) 095, arXiv:1112.4289 [hep-th], 15

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citations

- K. Hristov, C. Toldo and S. Vandoren, *On BPS bounds in  $D=4$   $N=2$  gauged supergravity*, JHEP 1112 (2011) 014, arXiv:1110.2688 [hep-th], 23 citations
- K. Hristov, S. Vandoren, *Static supersymmetric black holes in  $AdS_4$  with spherical symmetry*, JHEP 04 (2011) 047, arXiv:1012.4314 [hep-th], 70 citations
- K. Hristov, H. Looyestijn and S. Vandoren, *BPS black holes in  $N = 2$   $D = 4$  gauged supergravities*, JHEP 08 (2010) 103, arXiv:1005.3650 [hep-th], 26 citations
- K. Hristov, H. Looyestijn and S. Vandoren, *Maximally supersymmetric solutions of  $D = 4$   $N = 2$  gauged supergravity*, JHEP 11 (2009) 115, arXiv:0909.1743 [hep-th], 40 citations
- K. Hristov, *Axion Stabilization in Type IIB Flux Compactifications*, JHEP 01 (2009) 046, arXiv:0810.3329 [hep-th], 5 citations
- M. Girju, K. Hristov, O. Kidun and D. Bauer, *Nonperturbative resonant strong field ionization of atomic hydrogen*, J. Phys. B: At. Mol. Opt. Phys. 40 4165, arXiv:0707.3111 [physics.atom-ph], 11 citations