

Curriculum Vitæ Matteo Bertolini

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Date and place of birth: June 22, 1969, Rome, Italy
Nationality: Italian
Civil Status: Married (two children)

Education and Qualifications

- 1994: Degree (*Laurea*) in Physics at the University of Torino with full marks and honors (110/110 with *Laude* and honourable mention). Advisor: Prof. R. D'Auria.
- 1999: PhD degree in High Energy Physics from SISSA. Advisors: Prof. R. Iengo and Prof. P. Frè.
- 1999-2001: INFN postdoc and Research Associate at NORDITA, Copenhagen, DK.
- 2001-2003: Marie Curie fellow and Research Associate at NORDITA, Copenhagen, DK.
- 2003-2008: Assistant Professor at SISSA. Fellowship awarded by MIUR through the program *Rientro dei Cervelli*.
- 2008-2018: Associate Professor at SISSA.
- 2018-present: Full Professor at SISSA.

Academic and international network roles

- 2022-present - SISSA Director delegate for Didactic, Doctorate and Orientation upon CRUI (Conference of the Rectors of Italian Universities).
- 2022-present - Local coordinator of PRIN project 2020KR4KN2 *String Theory as a bridge between Gauge Theories and Quantum Gravity*.
- 2016-present - Member of SISSA Didactic Commission.
- 2011-present - INFN Research Assignment (Incaricato di Ricerca).
- 2017-2023 - Local Coordinator of INFN Network ST&FI.
- 2009-present - SISSA contact person for the European networks centralised postdoc selection in *Theories on the unification of fundamental interactions*.
- 2017-2021 - Member of SISSA Students/Professors Joint Committee.
- 2013-2017 - Management Committee member and core group member of EU-COST action MP1210, *The String Theory Universe*.
- 2012-2016 - Coordinator of the Theoretical Particle Physics Group and of the PhD in Theoretical Particle Physics at SISSA.

- 2012-2016 - Staff member of ESF Network *Holograv - Holographic methods for strongly coupled systems*.
- 2010-2019 - Scientific consultant of ICTP Director.

Prizes

- 2005 - Honored by *Le Scienze* (Italian edition of *Scientific American*) prize and Italian President 2005 physics medal. Motivation: "... for his internationally recognized contributions to his research field in the last few years".

Funding

Individual funding

- Pre-doc ANSALDO fellowship at CERN - 18 months. Started 1994.
- PhD fellowship from SISSA - 36 months. Started 1996.
- INFN international Postdoc fellowship at NORDITA, DK - 24 months. Started 1999.
- EU Marie Curie Postdoc individual fellowship at NORDITA/NBI, DK - 24 months. Started 2001.
- Research and teaching grant from MIUR (Ministry of Research and Education), Program *Rientro dei Cervelli* at SISSA - 48 months. Started 2003.

Network funding

- EU-RTN Network *Constituents, Fundamental Forces and Symmetries of the Universe* - 48 months. Started 2004.
- PRIN 2009 grant - 24 months (National PI A. Sagnotti). Started 2011.
- ESF Network *Holograv* - 48 months (Chair N. Evans). Started 2012.
- EU-COST network MP1210, *The String Theory Universe* - 48 months (Chair S. Penati). Started 2013.
- PRIN 2015 grant - 36 months (National PI A. Lerda). Started 2016.
- PRIN 2020 grant - 36 months (National PI M. Bianchi). Started 2022.
- INFN research grants - continuously since 2004.

Referee and Evaluator

- Associate *Editor* for *Frontiers in Physics*.
- *Referee* for:
JHEP, Physical Review D, Nuclear Physics B, Physics Letter B, International Journal of Modern Physics A.

- *Evaluator* for the following research foundations:

SNSF (Swiss National Science Foundation), Switzerland.

FWO (Fonds Wetenschappelijk Onderzoek - Vlaanderen), Belgium.

FNRS (Fonds de la Recherche Scientifique), Belgium.

CEA- Eurotalents, FR.

RANNIS - The Icelandic Research Fund, Iceland.

SIR - MIUR program Scientific Independence of Young Researchers, Italy.

Research grants and fellowships of Padua University, Italy.

Supervision and Mentoring

- PhD thesis *Supervisor* of the following students:

Stefano Cremonesi (PhD 2008). Reader at Durham University, UK.

Thomas Prochazka (PhD 2011). First Postdoc at Prague Institute of Physics, CZ.

Lorenzo Di Pietro (PhD 2013). Associate Professor at Trieste University, IT.

Flavio Porri (PhD 2014). Working at Private Company, IT.

Himanshu Raj (PhD 2017). First Postdoc at Weizmann Institute, IL.

Vladimir Bashmakov (PhD 2018). First Postdoc at Milano Bicocca, IT.A

Shani Nadir Meynet (PhD 2021). First Postdoc at Uppsala University, SW.

Francesco Mignosa (PhD 2022). First Postdoc at Technion, IL.

Fabrizio Aramini (PhD 2027 - expected).

Stefano Lanza (PhD 2027 - expected).

Pietro Moroni (PhD 2027 - expected).

- Master thesis *Advisor* of the following students:

Francesco Aprile (Degree 2008) - University of Pisa.

Cedric Musema Sinamuli (Degree 2011) - ICTP.

Syed Muntazir Mehdi Abidi (Degree 2013) - ICTP.

Alemayehu Solomon Admasu (Degree 2013) - ICTP.

Francesco Mignosa (Degree 2018) - University of Trento.

- External PhD Advisor of Daniel Arean (PhD 2008) - University Santiago de Compostela, Irene Amado (PhD 2010) - UAM Madrid, Giovanni Ricco (PhD 2010) - Pisa University, Daniele Musso (PhD 2012) - Turin University, Salvatore Mancani (PhD 2022) Rome La Sapienza University, Alfredo Giambrone (PhD 2023) Turin Polytechnique.
- Mentor at SISSA for the following postdocs: Irene Amado, Daniel Arean, Jarah Evslin, Eduardo Garcia-Valdecasas, Chetan Krishnan, Ioannis Papadimitriou, Niall MacPherson, Jesse van Muiden, Pierluigi Niro.

Teaching Activity (in house)

- From academic year 2003-2004 to academic year 2024-2025 (each year): Graduate course on *Supersymmetry I & II* for the PhD curriculum in Theoretical Particle Physics at SISSA - approx 90 hours/year.

My lecture notes, widely used also by graduate students outside SISSA, can be found at:

<http://people.sissa.it/~bertmat/teaching.htm>

- Academic year 2011-2012: Graduate course on *Solitons* for the PhD curriculum in Theoretical Particle Physics at SISSA - approx 20 hours.

Teaching Activity (elsewhere)

- Academic year 2017-2018: *Supersymmetry for beginners* at the ICTP High Energy Physics Diploma Program - approx 25 hours.
- From academic year 2010-2011 to academic year 2015-2016 (each year): course on *Introduction to Supersymmetry* at the ICTP High Energy Physics Diploma Program - approx 30 hours/year.
- November 2010 - Florence University, IT
Graduate course on *Dynamical supersymmetry breaking*
- June 2009 - Turin University, IT
Graduate lectures on *Supersymmetry breaking*
- June 2008 - QMW College, London, UK
Graduate lectures on *Supersymmetry breaking*
- May 2008 - ICTP, Trieste, IT
Introductory school on the gauge/gravity correspondence
Lectures on *Non-AdS/non-CFT correspondence*
- August 2006 - Dubrovnik, Bosnia-Herzegovina
School on Particle Physics, Gravity and Cosmology
Introductory Course on Supersymmetry
- March 2003 - NBI, Copenhagen, DK
Lectures on *The gauge/gravity correspondence*
- December 2002 - SISSA, Trieste, IT
Four lectures on the gauge/gravity correspondence

My lecture notes, which are also published, can be found at:

<http://people.sissa.it/~bertmat/4lectures.htm>

Organizational activity

- February 2024 - PRIN meeting *String Theory as a bridge between Gauge Theories and Quantum Gravity*
SISSA, Trieste, IT

- June 2023 - PRIN meeting *String Theory as a bridge between Gauge Theories and Quantum Gravity*
iGAP, Trieste, IT
- October 2015 - Workshop *String Theory, Particle Physics and Cosmology*
GGI, Florence, IT
- October 2015 - School *Methods for String Phenomenology*
GGI, Florence, IT
- June 2015 - Conference *PASCOS 2015*
ICTP, Trieste, IT
- August 2014 - Workshop *String Field Theory and Related Aspects VI, SFT 2014*
SISSA, Trieste, IT.
- July 2014 - School *Introductory School in String Field Theory and Higher Spin Theory*
SISSA, Trieste, IT.
- March 2014 - Workshop *Supersymmetry Breaking in String Theory*
Newton Institute, Cambridge, UK.
- November 2013 - Conference on *Exploring Higher Energy Physics*
International Solvay Institutes, Bruxelles, BE.
- August 2013 - Conference *SUSY 2013*
ICTP, Trieste, IT.
- January 2012 - INFN Workshop *TFI 2012 meeting - Theory of Fundamental Interactions*
SISSA, Trieste, IT.
- October 2011-present - Organizer (and founder) of Joint ICTP/SISSA *String Seminars in Trieste* activity.
- December 2009 - Workshop *V Avogadro meeting on Strings, Supergravity and Gauge Theories*
SISSA, Trieste, IT.
- December 2008 - Workshop *IV Avogadro meeting on Strings, Supergravity and Gauge Theories*
SISSA, Trieste, IT.
- February 2005 - EU-RTN Winter School *Constituents, Fundamental Forces and Symmetries of the Universe*
SISSA, Trieste, IT.
- October 2004-October 2008 - Organizer of TPP Group Seminar activity.
- September 2003 - EU-RTN Workshop *The Quantum Structure of Space-time and the Geometric Nature of Fundamental Interactions*
NORDITA, Copenhagen, DK.
- November 2002 - Workshop *16th Nordic Network meeting on Fields, Strings and Branes*
NORDITA, Copenhagen, DK.

Talks at Conferences, Workshops and Research Institutions

- May 2023 - *Di Vecchia-80 Fest*, NORDITA, Stockholm, SW
Title: *The rise of the Octagon*
- September 2022 - *CHEP String Seminars*, Bengaluru, IN
Title: *The Octagon rising from the swamp - Towards the geometric dual of dynamical supersymmetry breaking*
- November 2021 - *Quiver Meeting*, Imperial College, London, UK
Title: *On fixed points and phase transitions in five dimensions*
- November 2021 - CCNY HET Seminar, New York, USA
Title: *On fixed points and phase transitions in five dimensions*
- November 2021 - Nordic HET Seminar, Uppsala, SW
Title: *On fixed points and phase transitions in five dimensions*
- September 2021 - GGI Workshop *Topological properties of gauge theories and their applications to high-energy and condensed-matter physics*, Florence, IT
Title: *The Octagon and the Non-supersymmetric String Landscape*
- September 2019 - Conference *Challenges in Theoretical High-Energy Physics*, NORDITA, Stockholm, SW
Title: *On supersymmetry breaking vacua from D-branes at orientifold singularities*
- February 2019 - Roma Tor Vergata University, IT
Title: *Living on the walls of SQCD*
- January 2019 - Turin University, IT
Title: *Living on the walls of SQCD*
- February 2018 - Parma University, IT
Title: *Searching for non-supersymmetric conformal manifolds*
- January 2018 - CERN, Switzerland
Title: *Conformal manifolds without supersymmetry: field theory and holography*
- November 2017 - Florence University, IT
Title: *Conformal manifolds without supersymmetry: what can we say?*
- October 2017 - Turin University, IT
Title: *Conformal manifolds without supersymmetry: what can we say?*
- April 2016 - Conference *Holograv 2016*, NBI, Copenhagen, DK
Title: *A goldstino at the bottom of the cascade*
- April 2016 - ULB, Bruxelles, BE
Title: *A goldstino at the bottom of the cascade*
- November 2015 - TFI 2015 INFN, Naples, IT
Title: *A goldstino at the bottom of the cascade*
- April 2015 - Conference *Gauge/Gravity Duality 2015*, GGI, Florence, IT
Title: *The Holographic Goldstino*

- July 2013 - Workshop *Gauge/Gravity Duality 2013*, MPI, Munich, DE
Title: *Current Correlators and Holography*
- January 2013 - ITF, Utrecht University, NL
Title: *A holographic approach to general gauge mediation*
- October 2012 - Workshop *The Holographic Way: String Theory, Gauge Theory and Black Hole*, NORDITA, Stockholm, Sweden
Title: *Exploring holographic general gauge mediation*
- July 2012 - *Latino-American Workshop on High Energy Physics: Particles and Strings*, Havana, Cuba
Title: *Holographic general gauge mediation*
- June 2012 - NBI, Copenhagen, DK
Title: *Holographic correlators for general gauge mediation*
- May 2012 - ITF, Amsterdam, NL
Title: *Holographic correlators for general gauge mediation*
- May 2011 - Pisa, SNS, IT
Title: *Semi-direct Gauge Mediation and gaugino (un)screening*
- November 2010 - Rome Tor Vergata University, IT
Title: *Comments on Semi-direct Gauge Mediation*
- June 2010 - INFN *TFI Meeting*, Perugia, IT
Title: *General Semi-direct Gauge Mediation*
- July 2009 - INFN, Trieste, IT
Title: *AdS/CFT and Gauge mediation*
- April 2008 - INFN, Florence, IT
Title: *Metastable Dynamical Supersymmetry Breaking in Gauge Theory and in String Theory*
- January 2008 - DESY, Hamburg, DE
Title: *Metastable Supersymmetry Breaking Vacua in Gauge Theory and in String Theory*
- November 2007 - CPTH, Paris, FR
Title: *Metastable non-supersymmetric vacua in gauge theories with gravity duals*
- November 2007 - Turin University, IT
Title: *Metastable non-supersymmetric vacua in gauge theories with gravity duals*
- May 2007 - Neuchatel University, Switzerland
Title: *Metastable Supersymmetry Breaking Vacua in Gauge Theory and in String Theory*
- May 2007 - CERN, CH
Title: *Metastable Supersymmetry Breaking Vacua in Gauge Theory and in String Theory*
- April 2007 - GGI workshop *String and M theory approaches to particle physics and cosmology*, Florence, IT
Title: *Gauge/gravity duality and metastable supersymmetry breaking*

- December 2006 - *Avogadro Meeting 06*, Alessandria, IT
Title: *Dynamical supersymmetry breaking in field theory and string theory*
- November 2006 - ICTP, Trieste, IT
Title: *Gauge/gravity duality and meta-stable supersymmetry breaking*
- October 2006 - RTN-EU Workshop, Napoli, IT
Title: *Dynamical Supersymmetry breaking from D-branes at singularities*
- July 2006 - *QCD and String theory 2006*, Ringberg Castle, Tegernsee, DE
Title: *Stable non-supersymmetric vacua at the bottom of cascading gauge theories*
- April 2006 - Vietri sul mare, Salerno, IT
Title: *Recent progress in the gauge/string correspondence*
- December 2005 - Avogadro Meeting 05, Alessandria, IT
Title: *New results in AdS/CFT and beyond*
- November 2005 - PRIN Meeting *Theories of the Fundamental Interactions: gauge theories, gravity and strings*, Pisa, IT
Title: *New results in AdS/CFT: quivers, duality cascades and dynamical susy breaking*
- April 2005 - NORDITA/NBI, Copenhagen, DK
Title: *A new class of AdS/CFT duals and N=1 supersymmetric gauge theories*
- February 2005 - ICTP, Trieste, IT
Title: *New checks and subtleties on the AdS/CFT correspondence*
- August 2003 - *Nordic String Network Meeting 03*, Goteborg, Sweden
Title: *Non-perturbative dynamics of gauge theories from string duals*
- November 2002 - *The 16th Nordic Network Meeting*, NORDITA, Copenhagen, DK
Title: *Gauge theories from Fractional branes*
- May 2002 - *Nordic String Network Meeting 02*, Karlstad, Sweden
Title: *Fractional branes and non-conformal extensions of the gauge/gravity correspondence*
- May 2002 - NBI, Copenhagen, DK
Title: *Fractional branes: towards non-conformal extensions of the gauge/gravity correspondence*
- March 2002 - Uppsala, Sweden
Title: *On the gauge/gravity correspondence*
- June 2001 - SISSA, Trieste, IT
Title: *Fractional D-branes and their gauge duals*
- April 2001 - Spinoza Institute, Utrecht, NL
Title: *D-branes on orbifolds and non-conformal SYM theories*
- December 2000 - QMW College, London, United Kingdom
Title: *Towards non-conformal extensions of the gauge/gravity correspondence*

- December 2000 - King's College, London, United Kingdom
Title: *Non-BPS D-branes, fractional branes and their gravity duals*
- November 2000 - Chalmers, Göteborg, Sweden
Title: *Stable non-BPS D-branes and their classical description*
- November 2000 - DAMTP, Cambridge, United Kingdom
Title: *Stable non-BPS D-branes*
- November 2000 - *Nordic String Network Meeting 2000*, Chalmers, Göteborg, Sweden
Title: *Stable non-BPS D-branes and their classical description*
- October 2000 - RTN-EU workshop, Humboldt University, Berlin, FR
Title: *Classical description of stable non-BPS D-branes*
- May 2000 - Spinoza Institute, Utrecht, NL
Title: *BPS black holes and U-duality*
- May 2000 - NORDIT/NBI, Copenhagen, DK
Title: *BPS black holes and U-duality: the generating solution and its microscopic description*
- September 1998 - RTN-EU workshop, Corfù, GR
Title: *D-branes dynamics and black-holes*
- April 1998 - Vietri sul mare, Salerno, IT
Title: *D-branes, dyons and black-holes*

Outreach

- February 2019 - SISSA for School - SISSA
Da Newton alle stringhe - Tre secoli di Fisica in 30 minuti
- March 2013 - High School, Seminar/interview - SISSA
The (hard but exciting) life of a theoretical physicist
- April 2012 - SISSA for School - SISSA
From Newton to strings
- April 2010 - Master in Science Communication, SISSA
String theory: Unification, Extra-dimensions and... Superconductors!
- Several interviews between 2005 and 2013 for National broadcasting company RADIO3 and RAI Regional channel in connection with events I have organized (e.g. SUSY2013), with MIUR's program *Rientro dei Cervelli* of which I have been recipient and round tables on Italian Ministry of Education and Research policy.
- May 2003 - Public Colloquium - NORDITA, Copenhagen, DK
The magic of D-branes

Scientific Profile and Publications

Author of about 60 peer-reviewed publications and several conference proceedings. Total citations: 3560. h-index: 33. Topcite: *one* +500 paper, *nine* +100 papers (font Google Scholar - June 1st, 2023).

Main Scientific Achievements

Below, I summarize what I consider my main scientific achievements, so far:

- The construction of the most general $N = 2$ Supergravity Lagrangian in four dimensions [2,3]. The second paper has become a standard reference in the literature, with more than 500 citations so far.
- The construction of the supergavity dual of fractional D-branes at orbifold singularities, with and without flavors [12,14]. These works paved the path towards a large class of non-conformal extensions of the gauge/gravity correspondence.
- The first AdS/CFT check for superconformal field theories with irrational R-charges [22]. Our observation opened-up the possibility to understand a very large class of unconventional AdS/CFT dualities and, at the same time, has provided a very non-trivial check for the validity of AdS/CFT itself.
- The construction of D-brane models in string theory admitting metastable supersymmetry breaking vacua having controllable dual field theory descriptions [26,27].
- The first instance, within the gauge/gravity correspondence, of supersymmetric gauge theories which break supersymmetry dynamically in stable vacua [52,54,57].

Scientific Publications

Full papers

1. M. Bertolini, A. Ceresole, R. D'Auria, S. Ferrara
Real Special Geometry
Phys.Lett. **B333** (1994) 62 (hep-th/9404067)
2. L. Andrianopoli, M. Bertolini, A. Ceresole, R. D'Auria, S. Ferrara, P. Frè
General Matter Coupled $N=2$ Supergravity
Nucl.Phys. **B476** (1996) 397 (hep-th/9603004)
3. L. Andrianopoli, M. Bertolini, A. Ceresole, R. D'Auria, S. Ferrara, P. Frè, T. Magri
 $N=2$ Supergravity and $N=2$ Super Yang-Mills Theory on General Scalar Manifolds: Symplectic Covariance, Gaugings and the Momentum Map
J.Geom.Phys. **23** (1997) 111 (hep-th/9605032)
4. M. Bertolini, R. Iengo, C.A. Scrucca
Electric and magnetic interaction of dyonic D-branes and odd spin structure
Nucl.Phys. **B522** (1998) 193 (hep-th/9801110)
5. M. Bertolini, P. Frè, R. Iengo, C.A. Scrucca
Black holes as D3-branes on Calabi-Yau threefolds
Phys.Lett. **B431** (1998) 22 (hep-th/9803096)

6. M. Bertolini, P. Frè, M. Trigiante
 $N=8$ black-holes preserving $1/8$ supersymmetry
Class.Quant.Grav. **16** (1999) 1519 (hep-th/9811251)
7. M. Bertolini, P. Frè, M. Trigiante
The generating solution of regular $N=8$ BPS black holes
Class.Quant.Grav. **16** (1999) 2987 (hep-th/9905143)
8. M. Bertolini, M. Trigiante
Regular R-R and NS-NS BPS black holes
Int.J.Mod.Phys. **A15** (2000) 5017. (hep-th/9910237)
9. M. Bertolini, M. Trigiante
Regular BPS black holes: macroscopic and microscopic description of the generating solution
Nucl.Phys. **B582** (2000) 393 (hep-th/0002191)
10. M. Bertolini, P. Di Vecchia, M. Frau, A. Lerda, R. Marotta, R. Russo
Is a classical description of stable non-BPS D-branes possible?
Nucl.Phys. **B590** (2000) 471 (hep-th/0007097)
11. M. Bertolini, M. Trigiante
Microscopic entropy of the most general four-dimensional BPS black hole
JHEP **10** (2000) 002 (hep-th/0008201)
12. M. Bertolini, P. Di Vecchia, M. Frau, A. Lerda, R. Marotta, I. Pesando
Fractional D-branes and their gauge duals
JHEP **02** (2001) 014 (hep-th/0011077)
13. M. Bertolini, V. L. Campos, G. Ferretti, P. Frè, P. Salomonson, M. Trigiante
Supersymmetric 3-branes on smooth ALE manifolds with flux
Nucl.Phys. **B617** (2001) 3 (hep-th/0106186)
14. M. Bertolini, P. Di Vecchia, M. Frau, A. Lerda, R. Marotta
 $N=2$ Gauge theories on systems of fractional D3/D7 branes
Nucl.Phys. **B621** (2002) 157 (hep-th/0107057)
15. M. Bertolini, P. Di Vecchia, G. Ferretti, R. Marotta
Fractional Branes and $N=1$ Gauge Theories
Nucl. Phys. **B630** (2002) 222 (hep-th/0112187)
16. M. Bertolini, P. Di Vecchia, R. Marotta
 $N=2$ Four-Dimensional Gauge Theories From Fractional Branes
Olshanetsky, M. (ed.) et al.: Multiple facets of quantization and supersymmetry 730
(hep-th/0112195)
17. M. Bertolini, P. Di Vecchia, M. Frau, A. Lerda, R. Marotta
More Anomalies from Fractional branes
Phys. Lett. **B540** (2002) 104 (hep-th/0202195)
18. M. Bertolini, T. Harmark, N.A. Obers, A. Westerberg
Non-extremal fractional branes
Nucl. Phys. **B632** (2002) 257 (hep-th/0203064)

19. M. Bertolini, J. de Boer, T. Harmark, E. Imeroni, N.A. Obers
Gauge theory description of compactified pp-waves
JHEP **01** (2003) 016 (hep-th/0209201)
20. M. Bertolini, P. Merlatti
A note on the dual of $N=1$ super Yang-Mills theory
Phys. Lett. **B556** (2003) 80 (hep-th/0211142)
21. M. Bertolini
Four Lectures On The Gauge/Gravity Correspondence
Int. J. Mod. Phys. **A18** (2003) 5647 (hep-th/0303160)
22. M. Bertolini, F. Bigazzi, A.L. Cotrone
New checks and subtleties for AdS/CFT and a-maximization
JHEP **12** (2004) 024 (hep-th/0411249)
23. M. Bertolini, F. Bigazzi, A.L. Cotrone
Supersymmetry breaking at the end of a cascade of Seiberg dualities
Phys. Rev. D **72** (2005) 061902 (hep-th/0505055)
24. M. Bertolini, M. Billò, A. Lerda, J.F. Morales, R. Russo
Brane world effective actions for D-branes with fluxes
Nucl. Phys. **B743** (2006) 1 (hep-th/0512067)
25. R. Argurio, M. Bertolini, C. Closset, S. Cremonesi
On Stable Non-Supersymmetric Vacua at the Bottom of Cascading Theories
JHEP **09** (2006) 030 (hep-th/0606175)
26. R. Argurio, M. Bertolini, S. Franco, S. Kachru
Gauge / gravity duality and meta-stable dynamical supersymmetry breaking,
JHEP **01** (2007) 083 (hep-th/0610212)
27. R. Argurio, M. Bertolini, S. Franco, S. Kachru
Metastable vacua and D-branes at the conifold
JHEP **06** (2007) 017 (hep-th/0703236)
28. R. Argurio, M. Bertolini, G. Ferretti, A. Lerda and C. Petersson
Stringy Instantons at Orbifold Singularities
JHEP **06** (2007) 67 [arXiv:0704.0262 [hep-th]]
29. R. Argurio, F. Benini, M. Bertolini, C. Closset and S. Cremonesi
Gauge/gravity duality and the interplay of various fractional branes
Phys. Rev. D **78** (2008) 046008 [arXiv:0804.4470 [hep-th]]
30. F. Benini, M. Bertolini, C. Closset and S. Cremonesi
The $N=2$ cascade revisited and the enhancon bearings
Phys. Rev. D **79** (2009) 066012 [arXiv:0811.2207 [hep-th]]
31. R. Argurio, M. Bertolini, G. Ferretti and A. Mariotti
Natural semi-direct gauge mediation and D-branes at singularities
Phys. Rev. D **80** (2009) 045001 [Erratum-ibid. D **81** (2010) 029901] [arXiv:0906.0727 [hep-th]]

32. R. Argurio, M. Bertolini, G. Ferretti and A. Mariotti
Patterns of Soft Masses from General Semi-Direct Gauge Mediation
JHEP **1003** (2010) 008 [arXiv:0912.0743 [hep-ph]]
33. D. Arean, M. Bertolini, J. Evslin and T. Prochazka
On Holographic Superconductors with DC Current
JHEP **1007** (2010) 060 [arXiv:1003.5661 [hep-th]]
34. R. Argurio, M. Bertolini, G. Ferretti and A. Mariotti
Unscreening the Gaugino Mass with Chiral Messengers
JHEP **1012** (2010) 064 [arXiv:1006.5465 [hep-ph]]
35. D. Arean, M. Bertolini, C. Krishnan and T. Prochazka
Type IIB Holographic Superfluid Flows
JHEP **1103** (2011) 008 [arXiv:1010.5777 [hep-th]]
36. D. Arean, M. Bertolini, C. Krishnan and T. Prochazka
Quantum Critical Superfluid Flows and Anisotropic Domain Walls
JHEP **1109** (2011) 131 [arXiv:1106.1053 [hep-th]]
37. M. Bertolini, L. Di Pietro and F. Porri
Dynamical completions of generalized O’Raifeartaigh models
JHEP **1201** (2012) 158 [arXiv:1111.2307 [hep-th]]
38. R. Argurio, M. Bertolini, L. Di Pietro, F. Porri and D. Redigolo
Holographic Correlators for General Gauge Mediation
JHEP **1208** (2012) 086 [arXiv:1205.4709 [hep-th]]
39. R. Argurio, M. Bertolini, L. Di Pietro, F. Porri and D. Redigolo
Exploring Holographic General Gauge Mediation
JHEP **1210** (2012) 179 [arXiv:1208.3615 [hep-th]]
40. M. Bertolini, L. Di Pietro and F. Porri
Holographic R-symmetric flows and the τ_U conjecture
JHEP **1308** (2013) 071 [arXiv:1304.1481 [hep-th]]
41. R. Argurio, M. Bertolini, L. Di Pietro, F. Porri and D. Redigolo
Supercurrent multiplet correlators at weak and strong coupling
JHEP **1404** (2014) 123 [arXiv:1310.6897 [hep-th]]
42. R. Argurio, M. Bertolini, D. Musso, F. Porri and D. Redigolo
Holographic Goldstino
Phys. Rev. D **91** (2015) 126016 [arXiv:1412.6499 [hep-th]]
43. M. Bertolini, D. Musso, I. Papadimitriou and H. Raj
A goldstino at the bottom of the cascade
JHEP **1511** (2015) 184 [arXiv:1509.03594 [hep-th]]
44. V. Bashmakov, M. Bertolini, L. Di Pietro and H. Raj
Scalar Multiplet Recombination at Large N and Holography
JHEP **1605** (2016) 183 [arXiv:1603.00387 [hep-th]]

45. V. Bashmakov, M. Bertolini and H. Raj
Broken current anomalous dimensions, conformal manifolds and RG flows
Phys. Rev. D **95** (2017) no.6, 066011 [arXiv:1609.09820 [hep-th]]
46. V. Bashmakov, M. Bertolini and H. Raj
On non-supersymmetric conformal manifolds: field theory and holography
JHEP **1711** (2017) 167 [arXiv:1709.01749 [hep-th]]
47. R. Argurio and M. Bertolini
Orientifolds and duality cascades: confinement before the wall
JHEP **1802** (2018) 149 [arXiv:1711.08983 [hep-th]]
48. R. Argurio, M. Bertolini, F. Bigazzi, A. L. Cotrone and P. Niro
QCD domain walls, Chern-Simons theories and holography
JHEP **1809** (2018) 090 [arXiv:1806.08292 [hep-th]].
49. V. Bashmakov, F. Benini, S. Benvenuti and M. Bertolini
Living on the walls of super-QCD
SciPost Phys. **6** (2019) no.4, 044 [arXiv:1812.04645 [hep-th]].
50. R. Argurio, M. Bertolini, F. Mignosa and P. Niro
Charting the phase diagram of QCD_3
JHEP **1908** (2019) 153 [arXiv:1905.01460 [hep-th]].
51. R. Argurio, M. Bertolini, S. Meynet and A. Pasternak,
On supersymmetry breaking vacua from D-branes at orientifold singularities,
JHEP **1912** (2019) 145 [arXiv:1909.04682 [hep-th]].
52. R. Argurio, M. Bertolini, S. Franco, E. García-Valdecasas, S. Meynet, A. Pasternak and V. Tatitscheff,
The Octagon and the Non-Supersymmetric String Landscape
Phys.Lett.B **815** (2021) 136153 [arXiv:2005.09671 [hep-th]].
53. R. Argurio, A. Armoni, M. Bertolini, F. Mignosa and P. Niro,
Vacuum structure of large N QCD_3 from holography
JHEP **07** (2020), 134 [arXiv:2006.01755 [hep-th]].
54. R. Argurio, M. Bertolini, S. Franco, E. García-Valdecasas, S. Meynet, A. Pasternak and V. Tatitscheff,
Dimers, Orientifolds and Stability of Supersymmetry Breaking Vacua
JHEP **01** (2021) 061 [arXiv:2007.13762 [hep-th]].
55. R. Argurio, M. Bertolini, S. Franco, E. García-Valdecasas, S. Meynet, A. Pasternak and V. Tatitscheff,
Dimers, Orientifolds and Anomalies
JHEP **02** (2021) 153 [arXiv:2009.11291 [hep-th]].
56. M. Bertolini and F. Mignosa,
Supersymmetry breaking deformations and phase transitions in five dimensions
JHEP **10** (2021) 244 [arXiv:2109.02662 [hep-th]].
57. R. Argurio, M. Bertolini, S. Franco, E. García-Valdecasas, S. Meynet, A. Pasternak and V. Tatitscheff,

The Octagon at large M
 JHEP **11** (2022) 114 [arXiv:2207.00525 [hep-th]].

58. M. Bertolini, F. Mignosa and J. van Muiden,
On non-supersymmetric fixed points in five dimensions
 JHEP **10** (2022) 064 [arXiv:2207.11162 [hep-th]].
59. R. Argurio, F. Benini, M. Bertolini, G. Galati, P. Niro
On the Symmetry TFT of Yang-Mills-Chern-Simons theory
 JHEP **07** (2024) 130 [arXiv:2404.06601 [hep-th]].

Conference Proceedings

1. M. Bertolini, P. Frè, F. Hussain, R. Iengo, C. Nunez, C.A. Scrucca
Black hole - D-brane correspondence: An example
 Int.J.Theor.Phys. **38** (1999) 1385 (hep-th/9807209)
2. M. Bertolini, P. Frè, R. Iengo, C.A. Scrucca
D3-brane dynamics and black-holes
 Lect.No.Phys. **525** (1999) 388 (hep-th/9810150)
3. M. Bertolini, M. Trigiante
*The most general BPS black hole from type II string theory on a six-torus:
 the macroscopic-microscopic correspondence*
 Proceedings of the 9th Marcel Grossmann Meeting (MG9) - Rome, IT, July 2000
 World Scientific, Singapore, eds. V. Gurzadyan, R. Jantzen e R. Ruffini
4. M. Bertolini, A. Lerda
Stable non-BPS D-branes and their classical description
 Proceedings of the 9th Marcel Grossmann Meeting (MG9) - Rome, IT - July 2000
 World Scientific, Singapore, eds. V. Gurzadyan, R. Jantzen e R. Ruffini
5. M. Bertolini, M. Trigiante
Four-dimensional BPS black holes: Macroscopic and microscopic correspondence
 Proceedings of the 4th Annual European TMR Conference On Integrability Non-perturbative
 Effects And Symmetry In Quantum Field Theory - Paris, FR - September 2000
 JHEP conference Proceedings, eds. D. Bernard et al.
6. M. Bertolini, M. Trigiante
*Microscopic Entropy of the Most General Four Dimensional BPS Black Hole for
 Type II/M-Theory on Torii*
 Fortsch. Phys. **49** (2001) 657-664
7. M. Bertolini, A. Lerda
Stable non-BPS D-branes and their classical description
 Fortsch. Phys. **49** (2001) 441-448 (hep-th/0012169)
8. M. Bertolini, V.L. Campos, G. Ferretti, P. Frè, P. Salomonson, M. Trigiante
BPS 3-branes solution on smooth ALE manifold with flux
 Fortsch. Phys. **50** (2002) 802-807

9. M. Bertolini, F. Bigazzi, A.L. Cotrone
New results for AdS/CFT and beyond
Fortsch.Phys. **54** (2006) 291-299 (hep-th/0512109)
10. R. Argurio, M. Bertolini, S. Franco, S. Kachru
Metastable supersymmetry breaking and gauge/gravity duality
Fortsch.Phys. **55** (2007) 644-648
11. R. Argurio, M. Bertolini, C. Closset, S. Cremonesi
Stable non-supersymmetric vacua ant the bottom of cascading gauge theories
Fortsch.Phys. **55** (2007) 555-560
12. R. Argurio, M. Bertolini, S. Franco, S. Kachru
Meta-Stable Vacua and D-Branes at the Conifold
AIP Conf.Proc. **1031** (2008) 94-103

Books

- M. Bertolini
Supersymmetry. From the Basics to Exact Results in Gauge Theories.
World Scientific Publishing, 2024.

Book Editor

- M. Bertolini, Y. Demasure, P. Di Vecchia, C. Kristjansen, P. Merlatti, N. Obers
Quantum structure of spacetime and the geometric nature of fundamental interactions.
Proceedings, RTN Workshop, Copenhagen DK, September 2003
Class. Quantum Grav. 21 (2004) S1265-S1573

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