

## Curriculum Vitæ Matteo Bertolini

Home: Loc. Contovello 60, 34151, Trieste, Italy  
 Work: SISSA, Via Bonomea 265, 34136, Trieste, Italy  
 Tel: +39-040-3787459; email: bertmat@sisssa.it

*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: Ph.D. 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, Denmark.
- 2001-2003: Marie Curie fellow and Research Associate at NORDITA, Copenhagen, Denmark.
- 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

- 2012-2016 - Coordinator of the Theoretical Particle Physics Group and of the PhD in Theoretical Particle Physics at SISSA.
- 2016-2018 - Member of SISSA Didactic Commission.
- 2017-present - Member of SISSA Joint Committee.
- 2009-present - SISSA contact person for the European Networks centralised postdoc selection in *Theories on the unification of fundamental interactions*.
- 2013-2017 - Management Committee member and core group member of EU-COST action MP1210, *The String Theory Universe*.
- 2012-2016 - Staff member of ESF Network *Holograv - Holographic methods for strongly coupled systems*.
- 2011-present - INFN Research Assignment (Incaricato di Ricerca).
- 2010-present - Scientific consultant of ICTP Director.
- 2017-present - Local Coordinator of INFN Network ST&FI.

## Prizes

- 2005 - Honored by *Le Scienze* (Italian edition of *Scientific American*) prize and Italian President 2005 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.
- INFN research grants - continuously since 2004.

## Referee and Evaluator

- Review *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.  
CEA- Eurotalents, France.

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 Advisor at SISSA of the following students:
  - Stefano Cremonesi (PhD 2008). Now Lecturer at Durham University, UK.
  - Thomas Prochazka (PhD 2011). Now Postdoc at LMU Munich, DE.
  - Lorenzo Di Pietro (PhD 2013). Now Assistant Professor at Trieste University, IT.
  - Flavio Porri (PhD 2014). Now working at Private Company, IT.
  - Himanshu Raj (PhD 2017). Now Postdoc at Weizmann Institute, IS.
  - Vladimir Bashmakov (PhD 2018). Now Postdoc at Milan Bicocca University, IT.
  - Shani Nadir Maynet (PhD expected 2021).
  - Francesco Mignosa (PhD expected 2022).
- 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.
- Mentor at SISSA for the following postdocs: Irene Amado, Daniel Arean, Jarah Evslin, Chetan Krishnan, Ioannis Papadimitriou, Niall MacPherson.

## Teaching Activity (in house)

- From academic year 2003-2004 to academic year 2019-2020 (each year): Graduate course on *Supersymmetry* 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, Italy  
Graduate course on *Dynamical supersymmetry breaking*
- June 2009 - Turin University, Italy  
Graduate lectures on *Supersymmetry breaking*
- June 2008 - QMW College, London, UK  
Graduate lectures on *Supersymmetry breaking*
- May 2008 - ICTP, Trieste, Italy  
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, Denmark  
Lectures on *The gauge/gravity correspondence*
- December 2002 - SISSA, Trieste, Italy  
*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

- October 2015 - Workshop *String Theory, Particle Physics and Cosmology*  
GGI, Florence, Italy
- October 2015 - School *Methods for String Phenomenology*  
GGI, Florence, Italy
- June 2015 - Conference *PASCOS 2015*  
ICTP, Trieste, Italy
- August 2014 - Workshop *String Field Theory and Related Aspects VI, SFT 2014*  
SISSA, Trieste, Italy.
- July 2014 - School *Introductory School in String Field Theory and Higher Spin Theory*  
SISSA, Trieste, Italy.
- March 2014 - Workshop *Supersymmetry Breaking in String Theory*  
Newton Institute, Cambridge, UK.

- November 2013 - Conference on *Exploring Higher Energy Physics*  
International Solvay Institutes, Bruxelles, Belgium.
- August 2013 - Conference *SUSY 2013*  
ICTP, Trieste, Italy.
- January 2012 - INFN Workshop *TFI 2012 meeting - Theory of Fundamental Interactions*  
SISSA, Trieste, Italy.
- 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, Italy.
- December 2008 - Workshop *IV Avogadro meeting on Strings, Supergravity and Gauge Theories*  
SISSA, Trieste, Italy.
- February 2005 - EU-RTN Winter School *Constituents, Fundamental Forces and Symmetries of the Universe*  
SISSA, Trieste, Italy.
- 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, Denmark.
- November 2002 - Workshop *16th Nordic Network meeting on Fields, Strings and Branes*  
NORDITA, Copenhagen, Denmark.

### Talks at Conferences, Workshops and Research Institutions

- September 2019 - Conference *Challenges in Theoretical High-Energy Physics*, NORDITA, Stockholm, Sweden  
Title: *On supersymmetry breaking vacua from D-branes at orientifold singularities*
- February 2019 - Roma Tor Vergata University, Italy  
Title: *Living on the walls of SQCD*
- January 2019 - Turin University, Italy  
Title: *Living on the walls of SQCD*
- February 2018 - Parma University, Italy  
Title: *Searching for non-supersymmetric conformal manifolds*
- January 2018 - CERN, Switzerland  
Title: *Conformal manifolds without supersymmetry: field theory and holography*
- November 2017 - Florence University, Italy  
Title: *Conformal manifolds without supersymmetry: what can we say?*

- October 2017 - Turin University, Italy  
Title: *Conformal manifolds without supersymmetry: what can we say?*
- April 2016 - Conference *Holograv 2016*, NBI, Copenhagen, Denmark  
Title: *A goldstino at the bottom of the cascade*
- April 2016 - ULB, Bruxelles, Belgium  
Title: *A goldstino at the bottom of the cascade*
- November 2015 - TFI 2015 INFN, Naples, Italy  
Title: *A goldstino at the bottom of the cascade*
- April 2015 - Conference *Gauge/Gravity Duality 2015*, GGI, Florence, Italy  
Title: *The Holographic Goldstino*
- July 2013 - Workshop *Gauge/Gravity Duality 2013*, MPI, Munich, Germany  
Title: *Current Correlators and Holography*
- January 2013 - ITF, Utrecht University, The Netherlands  
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, Denmark  
Title: *Holographic correlators for general gauge mediation*
- May 2012 - ITF, Amsterdam, The Netherlands  
Title: *Holographic correlators for general gauge mediation*
- May 2011 - Pisa, SNS, Italy  
Title: *Semi-direct Gauge Mediation and gaugino (un)screening*
- November 2010 - Rome Tor Vergata University, Italy  
Title: *Comments on Semi-direct Gauge Mediation*
- June 2010 - INFN TFI Meeting, Perugia, Italy  
Title: *General Semi-direct Gauge Mediation*
- July 2009 - INFN, Trieste, Italy  
Title: *AdS/CFT and Gauge mediation*
- April 2008 - INFN, Florence, Italy  
Title: *Metastable Dynamical Supersymmetry Breaking in Gauge Theory and in String Theory*
- January 2008 - DESY, Hamburg, Germany  
Title: *Metastable Supersymmetry Breaking Vacua in Gauge Theory and in String Theory*

- November 2007 - CPTH, Paris, France  
Title: *Metastable non-supersymmetric vacua in gauge theories with gravity duals*
- November 2007 - Turin University, Italy  
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, Switzerland  
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, Italy  
Title: *Gauge/gravity duality and metastable supersymmetry breaking*
- December 2006 - *Avogadro Meeting 06*, Alessandria, Italy  
Title: *Dynamical supersymmetry breaking in field theory and string theory*
- November 2006 - ICTP, Trieste, Italy  
Title: *Gauge/gravity duality and meta-stable supersymmetry breaking*
- October 2006 - RTN-EU Workshop, Napoli, Italy  
Title: *Dynamical Supersymmetry breaking from D-branes at singularities*
- July 2006 - *QCD and String theory 2006*, Ringberg Castle, Tegernsee, Germany  
Title: *Stable non-supersymmetric vacua at the bottom of cascading gauge theories*
- April 2006 - Vietri sul mare, Salerno, Italy  
Title: *Recent progress in the gauge/string correspondence*
- December 2005 - *Avogadro Meeting 05*, Alessandria, Italy  
Title: *New results in AdS/CFT and beyond*
- November 2005 - PRIN Meeting *Theories of the Fundamental Interactions: gauge theories, gravity and strings*, Pisa, Italy  
Title: *New results in AdS/CFT: quivers, duality cascades and dynamical susy breaking*
- April 2005 - NORDITA/NBI, Copenhagen, Denmark  
Title: *A new class of AdS/CFT duals and N=1 supersymmetric gauge theories*
- February 2005 - ICTP, Trieste, Italy  
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, Denmark  
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, Denmark  
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, Italy  
Title: *Fractional D-branes and their gauge duals*
- April 2001 - Spinoza Institute, Utrecht, The Netherlands  
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, Germany  
Title: *Classical description of stable non-BPS D-branes*
- May 2000 - Spinoza Institute, Utrecht, The Netherlands  
Title: *BPS black holes and U-duality*
- May 2000 - NORDITA/NBI, Copenhagen, Denmark  
Title: *BPS black holes and U-duality: the generating solution and its microscopic description*
- September 1998 - RTN-EU workshop, Corfù, Greece  
Title: *D-branes dynamics and black-holes*
- April 1998 - Vietri sul mare, Salerno, Italy  
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, Denmark  
*The magic of D-branes*

## Scientific Profile and Publications

Author of about 50 peer-reviewed publications and several conference proceedings. Topcite: *one* +250 paper, *eight* +100 papers (font INSPIRE).

### 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 400 citations so far.
- The construction of the supergravity 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 fully stable vacua [52,54].

## 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: Simplectic 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  $\tau_U$  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<sub>3</sub>*  
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*  
To appear on PLB [arXiv:2005.09671 [hep-th]].
53. R. Argurio, A. Armoni, M. Bertolini, F. Mignosa and P. Niro, *Vacuum structure of large N QCD<sub>3</sub> 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*  
To appear on JHEP [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*  
To appear on JHEP [arXiv:2009.11291 [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, Italy, 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, Italy - 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, France - 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

### 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, Denmark, September 2003*  
 Class. Quantum Grav. 21 (2004) S1265-S1573

Trieste, November 30th, 2020

Prof. Matteo Bertolini, SISSA, Trieste