

DIEGO TRANCANELLI

CONTACT INFORMATION

Dept. of Mathematical Physics
Institute of Physics
University of São Paulo (USP)
São Paulo, Brazil

Phone: +55 (11) 3091-6843
E-mail: dtrancan@fma.if.usp.br
Personal page: fma.if.usp.br/~dtrancan/

RESEARCH INTERESTS

String theory, quantum field theory, gravity

EDUCATION

Stony Brook University, Stony Brook NY, USA

Ph.D. in Physics, May 2007

- Dissertation topic: *Studies in gauge/string dualities*
- Advisor: Martin Roček

University of Perugia, Perugia, Italy

Laurea in Fisica Teorica e Generale (110/110 e lode), May 2001

- Thesis topic: *Chiral condensate of 2-dimensional QCD*
- Advisor: Gianluca Grignani

Humboldt University, Berlin, Germany

Erasmus visiting fellow, Aug. 1999 - Sep. 2000

PROFESSIONAL EXPERIENCE

University of São Paulo, São Paulo, Brazil

Associate professor (*livre docente*), Sep. 2013 - present

University of São Paulo, São Paulo, Brazil

Assistant professor, Oct. 2011 - Sep. 2013

University of Wisconsin Madison, Madison WI, USA

Postdoctoral scholar, Sep. 2010 - Aug. 2011

University of California Santa Barbara, Santa Barbara CA, USA

Postdoctoral scholar, Sep. 2007 - Aug. 2010

FELLOWSHIPS AND AWARDS

Abilitazione Scientifica Nazionale, professore di prima e seconda fascia (MIUR),
Settore Concorsuale 02/A2 *Fisica Teorica delle Interazioni Fondamentali*, Mar. 2017 - Mar. 2023

Brazilian Academy of Sciences, Elected junior member (*membro afiliado*), Jan. 2015 - present

Livre Docência, University of São Paulo, Sep. 2013

Brazilian National Research Council (CNPq), *Bolsa de produtividade* level 2, Oct. 2011 - present

Peter B. Kahn award, May 2006

Fulbright fellowship (declined), Aug. 2001

Post-laurea research fellowship, May 2001 - May 2002

Erasmus fellowship, Aug. 1999 - Sep. 2000

PROFESSIONAL
ACTIVITIES

Organization of the *Non-perturbative effects in supersymmetric field theories* school and workshop, IIP Natal, Oct. 2018

Organization of the *XIX Swieca School on Particles and Fields*, Maresias, Feb. 2017

Scientific referee for *Cambridge University Press (CUP)*, Sep. 2013 - present

Organization of 3 schools and 2 workshops at the ICTP-SAIFR, São Paulo, Jan. 2013 - present

Scientific referee for the following Brazilian funding agencies:
Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), *Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)*, *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)*, Jan. 2012 - present

Organization of the *Colloquia* at the Dept. of Mathematical Physics at USP, Jan. 2012 - Dec. 2012

Organization of the *High Energy/Gravity Seminar* at UCSB, Sep. 2008 - Aug. 2009

Scientific referee for the following journals:
Journal of High Energy Physics (JHEP), *Physical Review Letters (PRL)*, *Physical Review D (PRD)*, *Physical Review B (PRB)*, *European Journal of Physics C (EJPC)*, *Physics Letters B (PLB)*, *Brazilian Journal of Physics*, *Journal of Physics A: Mathematical and Theoretical*, Aug. 2007 - present

PUBLICATIONS

1. C. Bercini and D. Trancanelli,
Supersymmetric integrable models from no particle production,
arXiv:1803.03612 [hep-th], submitted to PRD.
2. M. Preti, D. Trancanelli and E. Vescovi,
Quark-antiquark potential in defect conformal field theory,
JHEP **1710**, 079 (2017) [arXiv:1708.04884 [hep-th]].
3. P. Padmanabhan, S. J. Rey, D. Teixeira and D. Trancanelli,
*Supersymmetric many-body systems from partial symmetries:
integrability, localization and scrambling*,
JHEP **1705**, 136 (2017) [arXiv:1702.02091 [hep-th]].
4. A. Prudenziati and D. Trancanelli,
Replica trick and string winding,
Phys. Rev. **D 96** (2017) 026009 [arXiv:1610.07618 [hep-th]].
5. D. Avila, D. Fernandez, L. Patiño and D. Trancanelli,
Thermodynamics of anisotropic branes,
JHEP **11** (2016) 132 [arXiv:1609.02167 [hep-th]].
6. A. Faraggi, L. A. Pando Zayas, G. A. Silva and D. Trancanelli,
Toward precision holography with supersymmetric Wilson loops,
JHEP **1604**, 053 (2016) [arXiv:1601.04708 [hep-th]].
7. D. Trancanelli,
Physical quantities and dimensional analysis: from mechanics to quantum gravity,
Rev. Bras. Ens. Fis., Vol. 38, N. 2 (2016) [arXiv:1511.02684 [physics.ed-ph]].
8. M. Cooke, N. Drukker and D. Trancanelli,
A profusion of 1/2 BPS Wilson loops in $\mathcal{N} = 4$ Chern-Simons-matter theories,
JHEP **1510**, 140 (2015) [arXiv:1506.07614 [hep-th]].
9. D. H. Correa, F. I. S. Massolo and D. Trancanelli,
Cusped Wilson lines in symmetric representations,
JHEP **1508**, 091 (2015) [arXiv:1506.01680 [hep-th]].
10. V. Jahnke, A. S. Misobuchi and D. Trancanelli,
Holographic renormalization and anisotropic black branes in higher curvature gravity,
JHEP **1501**, 122 (2015) [arXiv:1411.5964 [hep-th]].

11. V. Jahnke, A. S. Misobuchi and D. Trancanelli,
Chern-Simons diffusion rate from higher curvature gravity,
Phys. Rev. D **89**, no. 10, 107901 (2014) [arXiv:1403.2681 [hep-th]].
12. V. Jahnke, A. Luna, L. Patio and D. Trancanelli,
More on thermal probes of a strongly coupled anisotropic plasma,
JHEP **1401**, 149 (2014) [arXiv:1311.5513 [hep-th]].
13. L. Patino and D. Trancanelli,
Thermal photon production in a strongly coupled anisotropic plasma,
JHEP **1302**, 154 (2013) [arXiv:1211.2199 [hep-th]].
14. M. Chernicoff, D. Fernandez, D. Mateos and D. Trancanelli,
Quarkonium dissociation by anisotropy,
JHEP **1301**, 170 (2013) [arXiv:1208.2672 [hep-th]].
15. M. Chernicoff, D. Fernandez, D. Mateos and D. Trancanelli,
Jet quenching in a strongly coupled anisotropic plasma,
JHEP **1208**, 041 (2012) [arXiv:1203.0561 [hep-th]].
16. M. Chernicoff, D. Fernandez, D. Mateos and D. Trancanelli,
Drag force in a strongly coupled anisotropic plasma,
JHEP **1208**, 100 (2012) [arXiv:1202.3696 [hep-th]].
17. M. P. Heller, D. Mateos, W. van der Schee and D. Trancanelli,
Strong Coupling Isotropization of Non-Abelian Plasmas Simplified,
Phys. Rev. Lett. **108**, 191601 (2012) [arXiv:1202.0981 [hep-th]].
18. D. Mateos and D. Trancanelli,
Thermodynamics and Instabilities of a Strongly Coupled Anisotropic Plasma,
JHEP **1107**, 054 (2011) [arXiv:1106.1637 [hep-th]].
19. D. Mateos and D. Trancanelli,
The anisotropic $N=4$ super Yang-Mills plasma and its instabilities,
Phys. Rev. Lett. **107**, 101601 (2011) [arXiv:1105.3472 [hep-th]].
20. C. Asplund, D. Berenstein and D. Trancanelli,
Evidence for fast thermalization in the plane-wave matrix model,
Phys. Rev. Lett. **107**, 171602 (2011) [arXiv:1104.5469 [hep-th]].
21. D. Berenstein and D. Trancanelli,
Dynamical tachyons on fuzzy spheres,
Phys. Rev. D **83**, 106001 (2011) [arXiv:1011.2749 [hep-th]].
22. N. Drukker and D. Trancanelli,
A supermatrix model for $\mathcal{N}=6$ super Chern-Simons-matter theory,
JHEP **1002**, 058 (2010), [arXiv:0912.3006 [hep-th]].
23. J. Gomis, T. Okuda and D. Trancanelli,
Quantum 't Hooft operators and S-duality in $N=4$ super Yang-Mills,
Adv. Theor. Math. Phys. **13**, 1941 (2009) [arXiv:0904.4486 [hep-th]].
24. D. Trancanelli,
Emergent geometry in $\mathcal{N}=6$ Chern-Simons-matter theory,
arXiv:0904.0449 [hep-th].
25. D. Berenstein and D. Trancanelli,
S-duality and the giant magnon dispersion relation,
Eur. Phys. J. C **74**, 2925 (2014) [arXiv:0904.0444 [hep-th]].
26. D. Berenstein and D. Trancanelli,
Three-dimensional $\mathcal{N} = 6$ SCFT's and their membrane dynamics,
Phys. Rev. D **78**, 106009 (2008) [arXiv:0808.2503 [hep-th]].

27. J. Gomis, S. Matsuura, T. Okuda and D. Trancanelli,
Wilson loop correlators at strong coupling: from matrices to bubbling geometries,
JHEP **0808**, 068 (2008) [arXiv:0807.3330 [hep-th]].
28. T. Okuda and D. Trancanelli,
Spectral curves, emergent geometry, and bubbling solutions for Wilson loops,
JHEP **0809**, 050 (2008) [arXiv:0806.4191 [hep-th]].
29. N. Drukker, S. Giombi, R. Ricci and D. Trancanelli,
Supersymmetric Wilson loops on S^3 ,
JHEP **0805**, 017 (2008) [arXiv:0711.3226 [hep-th]].
30. N. Drukker, S. Giombi, R. Ricci and D. Trancanelli,
Wilson loops: From four-dimensional SYM to two-dimensional YM,
Phys. Rev. D **77**, 047901 (2008) [arXiv:0707.2699 [hep-th]].
31. N. Drukker, S. Giombi, R. Ricci and D. Trancanelli,
More supersymmetric Wilson loops,
Phys. Rev. D **76**, 107703 (2007) [arXiv:0704.2237 [hep-th]].
32. N. Drukker, S. Giombi, R. Ricci and D. Trancanelli,
On the $D3$ -brane description of some $1/4$ BPS Wilson loops,
JHEP **0704**, 008 (2007) [arXiv:hep-th/0612168].
33. S. Giombi, R. Ricci and D. Trancanelli,
Operator product expansion of higher rank Wilson loops from D -branes and matrix models,
JHEP **0610**, 045 (2006) [arXiv:hep-th/0608077].
34. S. Giombi, M. Kulaxizi, R. Ricci and D. Trancanelli,
Half-BPS Geometries and Thermodynamics of Free Fermions,
JHEP **0701**, 067 (2007) [arXiv:hep-th/0512101].
35. S. Giombi, R. Ricci, D. Robles-Llana and D. Trancanelli,
Instantons and matter in $\mathcal{N} = 1/2$ supersymmetric gauge theory,
JHEP **0510**, 021 (2005) [arXiv:hep-th/0505077].
36. S. Giombi, M. Kulaxizi, R. Ricci, D. Robles-Llana, D. Trancanelli and K. Zoubos,
Orbifolding the twistor string,
Nucl. Phys. B **719**, 234 (2005) [arXiv:hep-th/0411171].
37. S. Giombi, R. Ricci, D. Robles-Llana and D. Trancanelli,
A note on twistor gravity amplitudes,
JHEP **0407**, 059 (2004) [arXiv:hep-th/0405086].
38. G. Grignani, M. Orselli, G. W. Semenoff and D. Trancanelli,
The superstring Hagedorn temperature in a pp -wave background,
JHEP **0306**, 006 (2003) [arXiv:hep-th/0301186].

Citations: \sim 1610 (Google Scholar), 6 topcite 100 and 6 topcite 50
 h -index = 22

More details: <http://inspirehep.net> or <http://scholar.google.com>

GRANTS

University of São Paulo

Bolsa de Produtividade level 2, CNPq, Apr. 2017 - present

Projeto Temático (5-year grant), FAPESP, May 2015 - present

Auxílio Regular (2-year grant), FAPESP, Oct. 2015 - present

Bolsa de Produtividade level 2, CNPq, Apr. 2014 - Mar. 2017

Auxílio Regular (2-year grant), FAPESP, Jul. 2013 - Jun. 2015

Bolsa de Produtividade level 2, CNPq, Oct. 2011 - Mar. 2014

3 FAPESP postdoc fellowships

2 FAPESP Ph.D. fellowship

3 FAPESP M.Sc. fellowships

4 FAPESP *Iniciação Científica* fellowships

The total amount of support of these grants is over R\$1.5 millions.

SUPERVISIONS

University of São Paulo

Supervision of 7 undergraduate students (*Iniciação Científica*) (6 completed)

Supervision of 9 M.Sc. students (6 completed)

Supervision of 3 Ph.D. students (1 completed)

Supervision of 5 postdocs (4 completed)

PRESENTATIONS AT CONFERENCES

Over 20 presentations at conferences and workshops world-wide including:

II Latin-American Workshop on High Energy Physics: Particles and Strings, Havana, 2016

MexStrings & MexiCuerdas, Colima, 2014

III Workshop on Fields, Brasilia, 2013

Quantum Gravity in the Southern Cone, Maresias, 2013

Hadron Physics: a Challenge to Holography, Natal, 2013

XXXIV National Meeting of Particles and Fields, Passa Quatro, 2013

IIP School and Workshop on Gravity and Strings, Natal, 2012

Great Lakes Strings, Chicago, 2011

Problemi Attuali di Fisica Teorica, Vietri sul Mare, 2010

Seventh Simons Workshop in Mathematics and Physics, Stony Brook, 2009

BIRS Workshop on Gauge Fields, Cosmology, and Mathematical Physics, Banff, 2009

Fundamental Aspects of String Theory, Santa Barbara, 2009

SEMINAR TALKS

Over 50 seminars given in universities and institutions world-wide including:

Brown, Caltech, CERN, Chicago, Columbia, Firenze U., Humboldt U., ICTP-SAIFR, KITP Santa Barbara, U. of La Plata, LPT-ENS Paris, LPTHE-Jussieu Paris, MCTP Ann Arbor, Modena U., NBI Copenhagen, NYU, Nordita Stockholm, Parma U., Perugia U., Princeton, PUC Chile, Purdue, Stony Brook, Torino U., UBC, UCLA, UCSB, Uppsala, UW Madison.

VISITING APPOINTMENTS

CERN, Geneva, Switzerland, Nov. - Dec. 2008 & May - Jun. 2009

TEACHING

University of São Paulo

Undergraduate level courses, Jan. 2012 - present

Physics II,

Electromagnetism I,

Electromagnetism II,

General Relativity

Graduate level courses, Oct. 2011 - present

Quantum Mechanics I,

Quantum Mechanics II,

Introduction to the AdS/CFT correspondence,

Introduction to Conformal Field Theory

Mini-courses

Latin American School on Particles and Strings, Havana, Cuba, Jul. 2016
Introduction to the AdS/CFT correspondence

XVIII Swieca School on Particles and Fields, Campos do Jordão SP, Brazil, Jan. 2015
Introduction to the AdS/CFT correspondence

III Semana Acadêmica UFSC, Florianópolis SC, Brazil, Sep. 2014
Introduction to the AdS/CFT correspondence

Escola de Inverno UNICAMP, Campinas SP, Brazil, Jul. 2014
Introduction to Quantum Field Theory

Outreach

The Theoretical Minimum USP, 2013

Seminars at *Convite à Física* USP and at a local high school, 2012 - present
See fma.if.usp.br/~dtrancan/ for links.

LANGUAGES Italian (native), English (fluent), Portuguese (fluent), German (intermediate),
Spanish (intermediate)

MORE fma.if.usp.br/~dtrancan/
INFORMATION <http://latttes.cnpq.br/9740100941376036>

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