

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 1 workshop 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. 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]].
2. A. Prudenziati and D. Trancanelli,
Replica trick and string winding,
Phys. Rev. **D 96** (2017) 026009 [arXiv:1610.07618 [hep-th]].
3. D. Avila, D. Fernandez, L. Patiño and D. Trancanelli,
Thermodynamics of anisotropic branes,
JHEP **11** (2016) 132 [arXiv:1609.02167 [hep-th]].
4. 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]].
5. 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]].
6. 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]].
7. 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]].
8. 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]].
9. 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]].
10. V. Jahnke, A. Luna, L. Patiño and D. Trancanelli,
More on thermal probes of a strongly coupled anisotropic plasma,
JHEP **1401**, 149 (2014) [arXiv:1311.5513 [hep-th]].

11. L. Patino and D. Trancanelli,
Thermal photon production in a strongly coupled anisotropic plasma,
JHEP **1302**, 154 (2013) [arXiv:1211.2199 [hep-th]].
12. M. Chernicoff, D. Fernandez, D. Mateos and D. Trancanelli,
Quarkonium dissociation by anisotropy,
JHEP **1301**, 170 (2013) [arXiv:1208.2672 [hep-th]].
13. 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]].
14. 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]].
15. 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]].
16. D. Mateos and D. Trancanelli,
Thermodynamics and Instabilities of a Strongly Coupled Anisotropic Plasma,
JHEP **1107**, 054 (2011) [arXiv:1106.1637 [hep-th]].
17. 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]].
18. 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]].
19. D. Berenstein and D. Trancanelli,
Dynamical tachyons on fuzzy spheres,
Phys. Rev. D **83**, 106001 (2011) [arXiv:1011.2749 [hep-th]].
20. 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]].
21. 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]].
22. D. Trancanelli,
Emergent geometry in $\mathcal{N}=6$ Chern-Simons-matter theory,
arXiv:0904.0449 [hep-th].
23. 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]].
24. 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]].
25. 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]].
26. T. Okuda and D. Trancanelli,
Spectral curves, emergent geometry, and bubbling solutions for Wilson loops,
JHEP **0809**, 050 (2008) [arXiv:0806.4191 [hep-th]].

27. N. Drukker, S. Giombi, R. Ricci and D. Trancanelli,
Supersymmetric Wilson loops on S^3 ,
JHEP **0805**, 017 (2008) [arXiv:0711.3226 [hep-th]].
28. 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]].
29. N. Drukker, S. Giombi, R. Ricci and D. Trancanelli,
More supersymmetric Wilson loops,
Phys. Rev. D **76**, 107703 (2007) [arXiv:0704.2237 [hep-th]].
30. 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].
31. 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].
32. 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].
33. 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].
34. 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].
35. S. Giombi, R. Ricci, D. Robles-Llana and D. Trancanelli,
A note on twistor gravity amplitudes,
JHEP **0407**, 059 (2004) [arXiv:hep-th/0405086].
36. 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 1450 (Google Scholar)

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

1 FAPESP Ph.D. fellowship

3 FAPESP M.Sc. fellowships

3 FAPESP *Iniciação Científica* fellowships

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

SUPERVISIONS

University of São Paulo

- Supervision of 6 undergraduate students (*Iniciação Científica*) (6 completed)
- Supervision of 9 M.Sc. students (4 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, LP THE-Jussieu Paris, MCTP Ann Arbor, 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*,
 - 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://lattes.cnpq.br/9740100941376036>

Updated: July 2017