

Bernardo Zan – Curriculum Vitae

Email	bzan@princeton.edu	Address	356 Jadwin Hall
ORCID	0000-0002-5218-5540		Department of Physics
Date of Birth	7 September 1990		Princeton University
Place of Birth	Bologna, Italy		Washington Road
Nationality	Italian		Princeton, NJ 08544-0708, USA

Research experience

Sep 2019 - Current **Postdoctoral Research Associate**
Department of Physics
Princeton University, United States

Education

Oct 2015 - Sep 2019 **Doctoral studies in Theoretical Physics**
Theoretical Particle Physics Laboratory, Institute of Physics
École polytechnique fédérale de Lausanne, Switzerland

Thesis Director: Prof. Riccardo Rattazzi
Thesis Co-director: Prof. Vyacheslav Rychkov, ENS, Paris
Thesis title: “*Studies in strongly coupled quantum field theories and renormalization group flows*”, available [here](#).

Oct 2017 - Jun 2019 **Visiting PhD student**
Laboratoire de Physique Théorique, École normale supérieure, Paris

Oct 2015 - Sep 2017 **Cooperative Associate**
CERN, Geneva

Feb 2013 - Jun 2015 **Master in Theoretical Physics, cum laude**
Institute for Theoretical Physics, Universiteit van Amsterdam

Master Project: “*Investigating the ER=EPR correspondence: a field theory study of long wormholes*”. Advisor: Prof. Jan de Boer
GPA: 9.2/10

Sep 2009 - Oct 2012 **Bachelor in Physics, cum laude**
University of Bologna

Final grade: 110/110
GPA: 29.7/30

Publications (authors in alphabetical order)

- M. F. Paulos, S. Rychkov, B. C. van Rees, and B. Zan, “Conformal Invariance in the Long-Range Ising Model,” *Nucl. Phys.* **B902** (2016) 246–291, arXiv:1509.00008 [hep-th]
- S. Rychkov, D. Simmons-Duffin, and B. Zan, “Non-gaussianity of the critical 3d Ising model,” *SciPost Phys.* **2** (2017) 001, arXiv:1612.02436 [hep-th]
- C. Behan, L. Rastelli, S. Rychkov, and B. Zan, “Long-range critical exponents near the short-range crossover,” *Phys. Rev. Lett.* **118** no. 24, (2017) 241601, arXiv:1703.03430 [cond-mat.stat-mech]
- C. Behan, L. Rastelli, S. Rychkov, and B. Zan, “A scaling theory for the long-range to short-range crossover and an infrared duality,” *J. Phys.* **A50** no. 35, (2017) 354002, arXiv:1703.05325 [hep-th]

- V. Gorbenko, S. Rychkov, and B. Zan, “Walking, Weak first-order transitions, and Complex CFTs,” *JHEP* **10** (2018) 108, arXiv:1807.11512 [hep-th]
- V. Gorbenko, S. Rychkov, and B. Zan, “Walking, Weak first-order transitions, and Complex CFTs II. Two-dimensional Potts model at $Q > 4$,” *SciPost Phys.* **5** no. 5, (2018) 050, arXiv:1808.04380 [hep-th]
- M. F. Paulos and B. Zan, “A functional approach to the numerical conformal bootstrap,” *JHEP* **09** (2020) 006, arXiv:1904.03193 [hep-th]
- V. Gorbenko and B. Zan, “Two-dimensional $O(n)$ models and logarithmic CFTs,” *JHEP* **10** (2020) 099, arXiv:2005.07708 [hep-th]
- D. J. Binder, D. Z. Freedman, S. S. Pufu, and B. Zan, “The holographic contributions to the sphere free energy,” *JHEP* **01** (2022) 171, arXiv:2107.12382 [hep-th]
- B. Zan, D. Z. Freedman, and S. S. Pufu, “The $\mathcal{N} = 2$ Prepotential and the Sphere Free Energy,” arXiv:2112.06931 [hep-th]

Invited speaker

Jun 2017	Bootstrap 2017, Sao Paulo, Brazil
May 2018	DESY, Hamburg, Germany
Jun 2018	EPFL, Lausanne, Switzerland
Oct 2018	SISSA, Trieste, Italy
Oct 2018	Scuola Normale Superiore, Pisa, Italy
Oct 2018	UC Davis, Davis, US
Oct 2018	Stanford University, Palo Alto, US
Oct 2018	Johns Hopkins University, Baltimore, US
Oct 2018	Brown University, Providence, US
Oct 2018	Boston University, Boston, US
Nov 2018	Columbia University, New York, US
Nov 2018	Cornell University, Ithaca, US
Nov 2018	McGill University, Montreal, Canada
Nov 2018	Queen Mary University, London, UK
Dec 2018	Yale University, New Haven, US
Jan 2019	CERN, Geneva, Switzerland
Sep 2019	Princeton University, Princeton, US
Jun 2020	Bootstrap 2020 Virtual Workshop, Harvard University, US
Oct 2021	University of Porto Journal Club, Porto, Portugal
Jan 2022	University of Padua, Padova, Italy

Awards and honors

2016	Teaching assistant excellence award, EPFL
2018	Best Paper Prize, Journal of Physics A: Mathematical and Theoretical

Teaching activities

Nov 2013 - Dec 2014	Teaching assistant for the course Condensed Matter II University of Amsterdam
---------------------	--

Feb 2014 - Mar 2014 Teaching assistant for the course Electrodynamics and theory of relativity II
University of Amsterdam

Feb 2016 - Jun 2016 Teaching assistant for the course Statistical Physics II

Feb 2017 - Jun 2017 EPFL

Languages

- Italian: native language
- English: fluent
- Spanish: intermediate
- French: intermediate

April 26, 2022