Matteo Lotito

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Skills & Interests

- Complex problem solving and excellent analytical skills
- Collaborative projects, mentorship, presentation of complex ideas to broad audiences
- Probability & Statistics, ML (Regression, Classification)
- Algorithms & Data Structures
- Python (numpy, pandas, scikit-learn), C++, C, Git/Github, HTML/CSS
- R, Mathematica, LaTeX, Linux, Office Suite
- Interests: Applications of AI / machine learning, Psychology (Decision making/Behavioral finance), Fitness (running, hiking), Language learning

Education

PhD in Physics (August 2018)
University of Cincinnati, GPA: 4.0/4.0

Laurea Magistrale in Fisica (**MS in Physics**) (November 2013)
University of Rome "La Sapienza" 110/110 *summa cum laude* | Curriculum in theoretical physics

Laurea Triennale in Fisica (**BS in Physics**) (November 2011)
University of Rome "La Sapienza" 110/110 *summa cum laude*

Professional Certificate: **Project Management** (February 2024)
Google & Coursera (Certificate Link)

Course: **Practical Time Series Analysis** (December 2023)
The State University of New York & Coursera (Certificate Link)

Course: **Introduction to Data Science with Python** (October 2023)
edX & Harvard University (Certificate Link)

Experience

Research Fellow (Postdoc) (October 2022 - Current)
Center for Theoretical Physics - Seoul National University

- developed and managed several research projects in parallel in novel directions within the realm of superconformal field theories
- participated and presented research at various international workshops
- organized the ACFI workshop "Theoretical Tests of the Landscape" (2023) at UMass Amherst, with an estimate of 30 invited participants

Postdoctoral Research Associate (September 2018 - October 2022)
Amherst Center for Fundamental Interactions - University of Massachusetts Amherst

- aided my supervisor in mentoring graduate students
- fostered interdisciplinary (math/physics) collaborations by otganizing joint seminars and lectures
- organized the summer school "Physical Mathematics of Quantum Field Theory" at UMass Amherst (2022) that included an estimate of 80 national and international participants
- taught a First year seminar course on special relativity (Fall 2019) that I developed in full independence and recognized as CIRTL Associate (May 2020)
- organized the ACFI workshop "Theoretical Tests of the Swampland Conjecture" (2019) at UMass Amherst, with an estimate of 30 invited participants

Teaching Assistant (September 2013 - August 2018)
University of Cincinnati

- taught a variety of courses, both introductory general physics courses for non-majors as well as specialized courses for 1st and 2nd year physics majors (MATHEMATICA)
- tutored undergraduate students for the Physics GRE exam

PhD candidate (SEPTEMBER 2013 - AUGUST 2018)
University of Cincinnati

- developed a classification program with my research group characterizing a family of superconformal field theories combining sophisticated algebraic techniques and the MATHEMATICA software, that has since become extremely renowned in the community (488 cumulative citations)
- finalist for the Presidential Medal for Graduate Student Excellence award, Graduate School (2017 & 2018)
- recipient of the Mary J. Hanna Fellowship, Department of Physics (May 2018), providing support for the 2016-17 academic year
- recipient of a University Research Council (URC) Graduate Student Fellowship, providing support for the summer of 2016
- president of the Physics Graduate Student Association (2015-2018)

SELECTED TALKS AND PUBLICATIONS

My full publication record can be found on Google Scholar or INSPIRE HEP.
Total number of citations: 613 (January 2024).

P. C. Argyres, M. Lotito, M. Weaver
Vertex algebra of extended operators in 4d N=2 superconformal field theories
NOVEMBER 2022, published in JHEP 10 (2023) 175

MARCH 2023	Invited talk	Korea Institute for Advanced Study
FEBRUARY 2023	Invited talk	King's College London
FEBRUARY 2023	Invited talk	Queen Mary University of London
JUNE 2022	Invited talk	Durham University
JUNE 2022	Invited talk	Imperial College London

I. García Etxebarria, B. Heidenreich, M. Lotito, A. K. Sorout
Deconfining N=2 SCFTs, or the Art of Brane Bending
NOVEMBER 2021, published in JHEP 03 (2022) 140

MAY 2022	Invited talk	Oxford University (online)

P. C. Argyres, M. Lotito, Y. Lü, M. Martone
Geometric constraints on the space of N=2 SCFTs
I: physical constraints on relevant deformations
MAY 2015, published in JHEP 02 (2018) 001
II: Construction of special Kähler geometries and RG flows
DECEMBER 2015, published in JHEP 02 (2018) 002
III: enhanced Coulomb branches and central charges
SEPTEMBER 2016, published in JHEP 02 (2018) 003
Expanding the landscape of N=2 rank 1 SCFTs
FEBRUARY. 2016, published in JHEP 05 (2016) 088

NOVEMBER 2017	Invited talk	Princeton University
OCTOBER 2017	Invited talk	University of California San Diego
OCTOBER 2017	Invited talk	California Institute of Technology

LANGUAGES

ITALIAN (Mother tongue)
ENGLISH, SPANISH (Functionally native proficiency)
FRENCH, PORTUGUESE (Limited working proficiency)
GERMAN, MANDARIN CHINESE (Elementary proficiency)