Matteo Lotito

Personal Information:

Name	Matteo Lotito
Date of Birth	01 March 1989
Gender	Male (he/him)
Address	1 Gwanak-ro, Gwanak-gu, BK Residence Halls, B321, 08826 Seoul, South Korea
Permanent Address	Via Andrea Marchini 33, 00123 Roma, Italy
Phone	+39 3387808957, +82 01027418957
email	matteolotito@gmail.com, mlotito@umass.edu

Professional Experience

October 2022 - Current — Research Fellow (Postdoc)
Center for Theoretical Physics
Seoul National University
Research work in the quantum field theory and string theory group under the supervision of Professor Seok Kim.

September 2018 - October 2022 — Postdoctoral Research Associate
Amherst Center for Fundamental Interactions
University of Massachusetts Amherst
Research work on superconformal field theories, string theory and quantum gravity, under the supervision of Professor Benjamin J. Heidenreich.

Education

August 2018 — PhD in Physics
University of Cincinnati
Thesis: "Geometric classification of 4d rank-1 $\mathcal{N}=2$ superconformal field theories"
Advisor: Prof. Philip C. Argyres

November 2013 — Laurea Magistrale in Fisica (Master of Science in Physics)
University of Rome "La Sapienza"
Thesis: "Free Scalar Field in 3d Gravity and Microcausality"
Advisors: Prof. Giovanni Amelino-Camelia and Dr. Michele Arzano
110/110 *summa cum laude* | Curriculum in theoretical physics

November 2011 — Laurea Triennale in Fisica (Bachelor of Science in Physics)
University of Rome "La Sapienza"
Thesis: "Perché le pulsar rallentano" ("Why pulsars slow down")
Advisor: Prof. Valeria Ferrari
110/110 *summa cum laude*

Additional Training

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

Teaching Experience

Fall 2019	First Year Seminar course on Special Relativity;
2017 - 2018	Lab Instructor for College Physics Lab - Physics Majors;
2016	Tutoring for Physics GRE exam;
2015 - 2016	Lab Instructor for Intermediate Lab - Physics Majors;
Summer 2014/15	Floating TA for General Physics I;
2014 - 2015	Recitation and Lab TA for College Physics II;
2013 - 2014	Grader for College Physics I / II.
2007 - 2013	Tutoring for high-school / college level physics and mathematics.

Extracurricular Involvement

2023	Member of the organizing committee of the ACFI workshop: "Theoretical Tests of the Landscape";
2020 - 2022	Member of the organizing committee of the summer school "Physical Mathematics of Quantum Field Theory";
2020	Organization of a virtual lecture series on "BV formalism for classical and quantum field theories";
2019	Member of the organizing committee of the ACFI workshop: "Theoretical Tests of the Swampland Conjecture";
2017 - 2018	Student representative in university committees for the Graduate Student Governance Association (GSGA) at the University of Cincinnati;
2015 - 2018	President of the Physics GSA (Graduate Student Association) at the University of Cincinnati;
2017	Member of the organizing committee of "Great Lakes Strings Conference 2017";
2016 - 2021	Volunteering experiences for several running events (course marshal and other supporting roles), most notably Mission Adelaide representative for "Girls on the Run" (Cincinnati) during the Spring 2017 season;
2014 - 2016	Founder and main organizer of a student led Particle Physics Journal Club in the Physics Department at the University of Cincinnati;
2015	Volunteering for the Physics Department at the 2015 UC Science Fair.

Awards and Recognitions

May 2020	Recognition as CIRTL Associate;
February 2018	finalist for the Presidential Medal for Graduate Student Excellence award, Graduate School, University of Cincinnati;
February 2017	finalist for the Presidential Medal for Graduate Student Excellence award, Graduate School, University of Cincinnati;
May 2016	Mary J. Hanna Fellowship, Department of Physics, University of Cincinnati, support for the 2016-17 academic year;
March 2016	University Research Council (URC) Graduate Student Fellowship, University of Cincinnati, support for Summer 2016;
January 2016	3rd place in the departmental Annual Poster Competition - selected to represent the Physics Department at the 2016 Student Expo and Poster Forum at the University of Cincinnati;

PUBLICATIONS

While the total number of my publications is not as extensive, these have had considerable impact in the community.
The cumulative number of citations is 611, as of January 2024 (INSPIRE HEP).

B. Heidenreich, M. Lotito
Proving the Weak Gravity Conjecture in Perturbative String Theory, Part I: The Bosonic String
Jan 2024, (arxiv/2401.14449)

P. C. Argyres, M. Lotito, M. Weaver
Vertex algebra of extended operators in 4d N=2 superconformal field theories
Nov 2022, published in JHEP 10 (2023) 175, (arxiv/2211.04410)

I. García Etxebarria, B. Heidenreich, M. Lotito, A. K. Sorout
Deconfining N=2 SCFTs, or the Art of Brane Bending
Nov. 2021, published in JHEP 03 (2022) 140, (arxiv/2111.08022)

P. C. Argyres, M. Lotito
Flavor symmetries and the topology of special Kähler structures at rank 1
Nov. 2018, published in JHEP 02 (2019) 026, (arxiv/1811.00016)

W. Altmannshofer, J. Eby, S. Gori, M. Lotito, M. Martone, D. Tuckler
Collider Signatures of Flavorful Higgs Bosons
Oct. 2016, published in Phys. Rev. D94 (2016) no.11, 115032
(arxiv/1610.02398)

P. C. Argyres, M. Lotito, Y. Lü, M. Martone
Geometric constraints on the space of N=2 SCFTs III:
enhanced Coulomb branches and central charges
Sep. 2016, published in JHEP 02 (2018) 003, (arxiv/1609.04404)

P. C. Argyres, M. Lotito, Y. Lü, M. Martone
Expanding the landscape of N=2 rank 1 SCFTs
Feb. 2016, published in JHEP 05 (2016) 088, (arxiv/1602.02764)

P. C. Argyres, M. Lotito, Y. Lü, M. Martone
Geometric constraints on the space of N=2 SCFTs II:
Construction of special Kähler geometries and RG flows
Dec. 2015, published in JHEP 02 (2018) 002, (arxiv/1601.00011);

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, (arxiv/1505.04814)

M. Arzano, D. Latini and M. Lotito
Group Momentum Space and Hopf Algebra Symmetries
of Point Particles Coupled to 2+1 Gravity
Mar. 2014, published in SIGMA 10 (2014) 079, (arxiv/1403.3038).

Talks and Presentations

June 2023	Invited talk, KAIST;
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;
July 2022	Invited talk, Strings, Gauge Theory and Branes 2022, APCTP;
June 2022	Invited talk, Durham University;
June 2022	Invited talk, Imperial College London;
May 2022	Invited talk, Oxford University (online);
September 2020	Invited talk, Seminar Series on String Phenomenology;
January 2020	Joint Math-Physics seminar, University of Massachusetts Amherst;
2018-2021	HEP Journal Club presentations, University of Massachusetts Amherst;
December 2017	Student talk, LACES 2017;
November 2017	Invited talk, Princeton University;
October 2017	Invited talk, University of California San Diego;
October 2017	Invited talk, California Institute of Technology;
June 2017	Student talk, TASI 2017;
February 2017	Grad School Expo and Poster Forum, University of Cincinnati;
January 2017	Departmental Annual Poster Competition, Physics Department - University of Cincinnati;
January 2017	Parallel session talk, APS April Meeting 2017;
May 2016	Invited talk, Josef Stefan Institute, Ljubljana, Slovenia;
May 2016	Parallel session talk, Phenomenology 2016 Symposium;
January 2016	Departmental Annual Poster Competition, Physics Department - University of Cincinnati;
July 2015	Parallel session talk, DPF 2015;
March 2015	3 minute Gong Show, Great Lakes Strings Conference 2015;
2014-2016	HEP Journal Club presentations, University of Cincinnati.

Languages

Italian	Mother tongue
English, Spanish	Full professional proficiency;
French, Portuguese	Limited working proficiency;
German, Mandarin Chinese	Elementary proficiency;

Computer Skills

Advanced knowledge	Mathematica, LaTeX, Windows, Mac and Linux OS, Microsoft Office
Good knowledge	C, Python (numpy, pandas, scikit-learn), HTML/CSS
Intermediate knowledge	Github, SQL
Basic knowledge	C++, LabVIEW, GEANT4, ROOT