

Ameen Ismail

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Employment & education

University of Chicago , Chicago, IL. Oehme Postdoctoral Fellow.	Aug. 2024–present
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Cornell University , Ithaca, New York. Ph.D. in Physics. <i>Advisor</i> : Csaba Csáki.	Aug. 2024
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Carleton University , Ottawa, Ontario, Canada. B.Sc. Honours with High Distinction, Biology and Physics, Minor in Mathematics. <i>Undergraduate thesis advisor</i> : Jeff Dawson.	June 2018
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Papers

Ultralight Dilatonic Dark Matter

A. Banerjee, C. Csáki, M. Geller, Z. Heller-Algazi, and **A. Ismail**
arXiv: 2506.21659 [hep-ph]

Gauge hierarchy and metastability from Higgs-driven crunching

S. Benevedes, **A. Ismail**, and T. Steingasser
JHEP **06** 228 (2025); arXiv: 2502.07876 [hep-ph]

Holographic Energy Correlators for Soft Walls

C. Csáki, S. Ferrante, and **A. Ismail**
JHEP **07** 117 (2025); arXiv: 2412.02738 [hep-ph]

Holographic Energy Correlators for Confining Theories

C. Csáki and **A. Ismail**

JHEP **11** 140 (2024); arXiv: 2403.12123 [hep-ph]

Axion dark matter from inflation-driven quantum phase transition

S. Ferrante, **A. Ismail**, S. J. Lee, and B. Yu

arXiv: 2402.08716 [hep-ph]

Forbidden conformal dark matter at a GeV

S. Ferrante, **A. Ismail**, S. J. Lee, and Y. Lee

JHEP **11** 186 (2023); arXiv: 2308.16219 [hep-ph]

FIMPzilla dark matter and conformal sectors

A. Ismail

Phys. Rev. D **108**, 095049 (2023); arXiv: 2306.06161 [hep-ph]

Relevant dilaton stabilization

C. Csáki, M. Geller, Z. Heller-Algazi, and **A. Ismail**

JHEP **06** 202 (2023); arXiv: 2301.10247 [hep-ph]

The continuum dark matter zoo

C. Csáki, **A. Ismail**, and S. J. Lee

JHEP **02** 053 (2023); arXiv: 2210.16326 [hep-ph]

Higgs squared

C. Csáki, **A. Ismail**, M. Ruhdorfer, and J. Tooby-Smith

JHEP **04** 082 (2023); arXiv: 2210.02456 [hep-ph]

α -anomalous interactions of the holographic dilaton

C. Csáki, J. Hubisz, **A. Ismail**, G. Rigo, and F. Sgarlata

Phys. Rev. D **106**, 055004 (2022); arXiv: 2205.15324 [hep-ph]

The Forward Physics Facility at the High-Luminosity LHC

FPF collaboration paper; contribution to Snowmass 2021

J. Phys. G **50** 3, 030501 (2023); arXiv: 2203.05090 [hep-ex]

CKM substructure from the weak to the Planck scale

Y. Grossman, **A. Ismail**, J. T. Ruderman, and T.-H. Tsai

JHEP **06** 065 (2022); arXiv: 2201.10561 [hep-ph]

The Forward Physics Facility: Sites, experiments, and physics potential

FPF collaboration paper

Phys. Rept. **968**, 1-50 (2022); arXiv: 2109.10905 [hep-ph]

Crunching Dilaton, Hidden Naturalness

C. Csáki, R. T. D'Agnolo, M. Geller, and **A. Ismail**

Phys. Rev. Lett. **126**, 091801 (2021); arXiv: 2007.14396 [hep-ph]

Benchmark for LHC searches for low-mass custodial fiveplet scalars in the Georgi-Machacek model

A. Ismail, B. Keeshan, H. E. Logan, and Y. Wu

Phys. Rev. D **103**, 095010 (2021); arXiv: 2003.05536 [hep-ph]

Updated constraints on the Georgi-Machacek model from LHC Run 2

A. Ismail, H. E. Logan, and Y. Wu

arXiv: 2003.02272 [hep-ph]

Seminars & talks

Crunchy critical natural Higgs

McDonald Institute (Queen's U.) Seminar

May 2025

Perimeter Institute Particle Physics Seminar

Apr. 2025

U. of Toronto THEP Seminar

Apr. 2025

No Stone Unturned 2025

Mar. 2025

Energy correlators, holography, and confinement

Navigating New Horizons

June 2025

Energy Operators in Particle Physics, QFT and Gravity

Dec. 2024

PIKIMO Fall 2024 meeting

Nov. 2024

Notre Dame Particle Physics Seminar

Oct. 2024

2024 Seoul Particle Theory Workshop

May 2024

DPF-Pheno 2024 parallel talk

May 2024

Cornell-Syracuse (CoSy) HEP theory meeting

Apr. 2024

Relevant dilaton stabilization

New York U. Informal HEP Seminar

Oct. 2023

UC Berkeley 4D Seminar

Oct. 2023

UC Irvine Joint Particle Seminar

Oct. 2023

UC Riverside HEP Seminar

Oct. 2023

U. of Maryland EPT Seminar

Mar. 2023

Cornell U. LEPP Theory Seminar

Feb. 2023

Z-portal continuum dark matter models

Pheno 2023 parallel talk

May 2023

Cornell HEP experiment/theory workshop

Feb. 2023

Cornell-Syracuse (CoSy) HEP theory meeting

Nov. 2022

Holographic dilaton action: the a -term

Pheno 2022 parallel talk

May 2022

Crunching dilaton, hidden naturalness: a new approach to the hierarchy problem

2nd Forward Physics Facility Meeting parallel talk

May 2021

Pheno 2021 parallel talk

May 2021

Carleton U. Particle Seminar

Sept. 2020

Cornell U. LEPP Theory Seminar

Sept. 2020

Updated constraints on the Georgi-Machacek model
Pheno 2020 parallel talk

May 2020

Conferences, schools, & workshops

Collider Physics at the LHC and Beyond (Aspen Center for Physics, CO)	July 2025
Navigating New Horizons (MIAPbP, Munich, Germany)	June 2025
No Stone Unturned 2025 (U. of Utah, UT)	Mar. 2025
Energy Operators in Particle Physics, QFT, and Gravity (Simons Center, NY)	Dec. 2024
PIKIMO Fall 2024 meeting (U. of Michigan, MI)	Nov. 2024
2024 Seoul Particle Theory Workshop (KIAS, Seoul, South Korea)	May 2024
DPF-Pheno 2024 (U. of Pittsburgh, PA)	May 2024
Cornell-Syracuse (CoSy) HEP theory meeting (Cornell U., NY)	Apr. 2024
Phenomenology 2023 symposium (U. of Pittsburgh, PA)	May 2023
Cornell HEP experiment/theory workshop (Cornell U., NY)	Feb. 2023
Cornell-Syracuse (CoSy) HEP theory meeting (Syracuse U., NY)	Nov. 2022
TASI 2022: Ten Years After the Higgs Discovery (CU Boulder, CO)	June 2022
Phenomenology 2022 symposium (U. Pittsburgh, PA)	May 2022
4 th Forward Physics Facility meeting (virtual)	Jan. 2022
3 rd Forward Physics Facility meeting (virtual)	Oct. 2021
2 nd Forward Physics Facility meeting (virtual)	May 2021
Phenomenology 2021 symposium (virtual)	May 2021
Phenomenology 2020 symposium (virtual)	May 2020
Lectures on the Theory of Fundamental Interactions (GGI, Florence, Italy)	Jan. 2020

Awards & honours

Stirling A. Colgate Award (Cornell University)	2022
NSERC Postgraduate Scholarships—Doctoral	2021
NSERC Alexander Graham Bell Canada Graduate Scholarships (declined)	2021
Cornell Fellowship (Cornell University; awarded 2018, deferred)	2020
Presidential Life Science Fellowship (Cornell University)	2018
NSERC Canada Graduate Scholarships—Master’s (declined)	2018
NSERC Undergraduate Student Research Award	2018
C.A.B. Betts Memorial Award in Physics (Carleton University)	2017

NSERC Undergraduate Student Research Award	2017
Trevor A. Harwood Memorial Award in Physics (Carleton University)	2016
NSERC Undergraduate Student Research Award	2016

Teaching

Grader, PHYS 7681: Quantum Information Processing	Fall 2022
Grader, PHYS 6554: General Relativity II	Spring 2021
Grader, PHYS 7652: Relativistic Quantum Field Theory II	Spring 2020
Teaching assistant, PHYS 2217: Physics II: Electricity and Magnetism	Spring 2020
Teaching assistant, PHYS 1101: General Physics I	Fall 2019

Other activities

Friend of arXiv for services rendered to open science	2025
Organizer, Cornell-Syracuse (CoSy) HEP theory meeting	2024
Author, GMCALC: a calculator for the Georgi-Machacek model, v 1.5.0.	2021