

# Ameen Ismail

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ai279@cornell.edu

428 Physical Sciences Building, Cornell University,  
Ithaca, NY 14850.

Webpage: <http://ameenismail.github.io>

INSPIRE: <http://inspirehep.net/authors/1797161>

## Education

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**Cornell University**, Ithaca, New York.

Ph.D. in Physics (*ongoing*).

*Advisor*: Csaba Csáki.

Sept. 2018–present

**Carleton University**, Ottawa, Ontario, Canada.

B.Sc. Honours with High Distinction, Biology and Physics,  
Minor in Mathematics.

*Undergraduate thesis advisor*: Jeff Dawson.

June 2018

## Papers

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*Relevant Dilaton Stabilization*

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

arXiv: 2301.10247 [hep-ph]

*The Continuum Dark Matter Zoo*

C. Csáki, **A. Ismail**, S. J. Lee

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

### *Higgs Squared*

C. Csáki, **A. Ismail**, M. Ruhdorfer, and J. Tooby-Smith  
arXiv: 2210.02456 [hep-ph]

### *a–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]

### *A 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

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Relevant dilaton stabilization

UMD EPT Seminar

Mar. 2023

Cornell U. LEPP Theory Seminar

Feb. 2023

Z-portal continuum dark matter models

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	
2 <sup>nd</sup> 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

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Cornell HEP experiment/theory workshop (Ithaca, NY)	Feb. 2023
Cornell-Syracuse (CoSy) HEP theory meeting (Syracuse, NY)	Nov. 2022
TASI 2022: Ten Years After the Higgs Discovery (Boulder, CO)	June 2022
Phenomenology 2022 symposium (Pittsburgh, PA)	May 2022
4 <sup>th</sup> Forward Physics Facility meeting (virtual)	Jan. 2022
3 <sup>rd</sup> Forward Physics Facility meeting (virtual)	Oct. 2021
2 <sup>nd</sup> Forward Physics Facility meeting (virtual)	May 2021
Phenomenology 2021 symposium (virtual)	May 2021
Phenomenology 2020 symposium (virtual)	May 2020
GGI Lectures on the Theory of Fundamental Interactions (Florence, Italy)	Jan. 2020

## Awards & honours

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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

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

## Other activities

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Referee, <i>European Physical Journal C</i> .	2021
GMCALC: a calculator for the Georgi-Machacek model, v 1.5.0.	2021
Snowmass 2021 Letter of Interest: Forward Physics Facility.	2020
<i>Science Blog</i> : Shining a light on dark matter, popular article for the Charlatan.	2018