CURRICULUM VITAE

A. BIOGRAPHICAL INFORMATION

1. PERSONAL

- **Name:** David Curtin
- **University Address:** MP1113, Department of Physics, 60 St. George Street, University of Toronto, Toronto, Ontario M5S 1A7, Canada
- **Office Phone:** +1 416-978-4784
- **Email:** dcurtin@physics.utoronto.ca
- **Website:** curtin.physics.utoronto.ca

2. DEGREES

- Ph.D.: May 2011
  Cornell University, Ithaca, New York
  Thesis Title: “Model Building and Collider Physics Above the Weak Scale"
  Advisor: Csaba Csaki

- Bachelor of Science: First Class Honours, Nov 2005
  University of Melbourne, Melbourne, Australia
  Thesis Title: “Fermion confinement in brane world models with SO(10) unification"
  Advisor: Raymond Volkas

- Bachelor of Science (Advanced Stream) with High Distinction: Nov, 2004
  University of Sydney, Sydney, Australia
  Majors: Physics and Pure Mathematics

3. EMPLOYMENT

- University of Toronto, Toronto, Ontario, Canada
  Associate Professor, Department of Physics: Jul 2024 - ongoing
  Assistant Professor, Department of Physics: Jan 2018 - Jun 2024
  On parental leave Sep - Dec 2022, Sep - Dec 2024

- CERN Theory Group, Geneva, Switzerland
  Scientific Associate (Sabbatical), Mar - Aug 2025

- Maryland Center for Fundamental Physics, University of Maryland, College Park, MD, USA

Postdoctoral Research Associate: Aug 2014 - Dec 2017

- C.N. Yang Institute for Theoretical Physics, Stony Brook University, New York, USA
  Postdoctoral Research Associate: Aug 2011 - Aug 2014

- Cornell University, Ithaca, New York, USA
  Graduate Research and Teaching Assistant, Department of Physics: Aug 2006 - Mar 2011

4. HONOURS

- 2022 McLean Senior Fellow
- 2021 Alfred P. Sloan Research Fellow in Physics
- Appointed Canada Research Chair in Theoretical Particle Physics, 2018-2023, renewed for 2024-2028
- Stony Brook University Postdoctoral Achievement Award in Theoretical Physics for 2013
- John and David Boochever Prize Fellowship in Fundamental Theoretical Physics for 2010-11
- Laby Medal for Outstanding Honours Thesis, 2005
- Prestigious Honours Scholarship, 2005
- Melbourne Honours Scholarship, 2005
- Placed on Deans List of Excellence in Academic Performance , Admitted to University of Sydney Talented Students Program to conduct extracurricular research, 2004
- Science Foundation for Physics Scholarship No II, 2003
- Science Foundation for Physics Scholarship No I, 2002

5. PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- **MATHUSLA** (MAssive Timing Hodoscope for Ultra-Stable neutraL pArticles) experimental collaboration: co-founder and member of management committee, 2016 - ongoing
  http://mathusla.web.cern.ch

- **Large Hadron Collider Long Lived Particles Working Group**, CERN, Geneva: 2016 - ongoing.

- **Higgs Cross Section Working Group**, CERN, Geneva: 2014 - ongoing.

B. ACADEMIC HISTORY

6. i. RESEARCH ENDEAVOURS

Theoretical Particle Physics, Cosmology:

Higgs physics; theories and detection of long-lived BSM particles; early universe cosmology, electroweak baryogenesis, gravitational waves; the hierarchy problem, neutral naturalness, composite higgs theories, supersymmetric theories; collider phenomenology; future proton and muon colliders; dark complexity, dark matter models, direct detection, implications for stellar astrophysics, N-body simulations with interacting dark matter.

ii. **RESEARCH AWARDS** (grants, contracts, fellowships)

McDonald Institute HQP Pooled Resources funding
Aug 2025 - Aug 2027
25k CAD over 2 years

NSERC Subatomic Physics Individual Discovery Grant
“Integrative Approaches to Studying New Physics at Subatomic, Galactic and Cosmological Scales”
April 1, 2024 - Mar 31, 2029
410k CAD total over 5 years.

2022 McLean Award
Jul 2022 - 2027
125k CAD over 5 years

NSERC Subatomic Physics Discovery Grant
“The MATHUSLA Experiment”
PI: Steven Robertson (McGill)
Co-PIs: David Curtin (U of T), Miriam Diamond (U of T), Steven Robertson (Alberta), Heather Russell (McGill)
April 1, 2022 - Mar 31, 2024, 250k CAD total over 2 years.
April 1, 2024 - Mar 31, 2025, 60k CAD bridging grant for 1 year
April 1, 2025 - Mar 31, 2026, 57k CAD bridging grant for 1 year

2021 Alfred P. Sloan Research Fellow in Physics
Sep 2021 - 2023
75k USD over 2 years

2019 Ontario Early Researcher Award
April 2021 - 2026 (onset delayed by COVID pandemic)
100k CAD over 5 years

Canada Research Chair for Theoretical Particle Physics
CRC Tier 2, 2018 - 2023, renewed to 2028
400k CAD personal research & cluster research funds over 10 years

NSERC Subatomic Physics Individual Discovery Grant
“New Approaches to Beyond Standard Model Searches with Colliders and Cosmology”

April 1, 2018 - Mar 31, 2023
250k CAD total over 5 years.

C. SCHOLARLY AND PROFESSIONAL WORK

7. Metrics

h-index = 54, citations = 19,681 total (iNSPIRE HEP)
iNSPIRE HEP profile: https://inspirehep.net/authors/1024481

h-index = 51, citations = 16,289 (Google Scholar)
Google Scholar profile: https://scholar.google.com/citations?user=c_ZchXUAAAAJ

ORCID: 0000-0003-0263-6195, https://orcid.org/0000-0003-0263-6195

The database of record in high energy physics is iNSPIRE HEP. Google scholar and even more so other databases do not include several of my contributions.

On the below papers/reports, I am a main author unless otherwise indicated. A star * indicates papers/white papers/reports where I was asked by editors for specific contributions. Two stars ** indicates white papers or proceedings that I was asked to sign as a supporter due to my involvement/impact in the corresponding subfield/community.

On iNSPIRE, my number of papers, h-index and citations including only papers where I am a main author (also including white papers I contributed to) is 67, 33, 6392 (92, 46, 12709). This excludes arXiv preprints submitted for publication.

8. Refereed publications

Note that authors are ordered alphabetically on high energy theory papers. Some papers appeared in astrophysical journals, with the main junior collaborators as first authors.

Numbered R# for reference.

R69: Soft-unclustered-energy patterns from quirks
David Curtin, Sascha Dreyer, Max Fusté Costa, Sarah Heim, Gregor Kasieczka, Louis Moureaux, David Rousso, David Shih, Manuel Sommerhalder
e-Print: 2506.11192 [hep-ph]
Phys.Rev.D 113 (2026) 1, 015010

R68: Testing the Froggatt-Nielsen mechanism with lepton flavor and number violating processes
Claudia Cornella, David Curtin, Gordan Krnjaic, Micah Mellors
e-Print: 2501.00629 [hep-ph]
Phys.Rev.D 112 (2025) 11, 115010

R67: * Accelerator-based dark matter searches
Christopher Hearty et al.
DOI: 10.1139/cjp-2024-0183
Can.J.Phys. 103 (2025) 8, 788-799

R66: Dark Astronomy with Dark Matter Detectors
Gonzalo Alonso-Álvarez, David Curtin
e-Print: 2412.06883 [astro-ph.CO]
JCAP 05 (2025) 082

R65: Aggressively-Dissipative Dark Dwarfs: The Effects of Atomic Dark Matter on the Inner Densities of Isolated Dwarf Galaxies
Sandip Roy, Xuejian Shen, Jared Barron, Mariangela Lisanti, David Curtin, Norman Murray, Philip F. Hopkins
e-Print: 2408.15317 [astro-ph.GA
Astrophys.J. 982 (2025) 2, 175

R64: Mapping and Probing Froggatt-Nielsen Solutions to the Quark Flavor Puzzle
Claudia Cornella, David Curtin, Ethan T. Neil, Jedidiah O. Thompson
e-Print: 2306.08026 [hep-ph]
Phys.Rev.D 111 (2025) 1, 015042

R63: Dark Matter Candidates and Searches
Nassim Bozorgnia, Joseph Bramante, James M. Cline, David Curtin, David McKeen, David Morrissey, Adam Ritz, Simon Viel, Aaron Vincent, Yue Zhang
Canadian Journal of Physics, DOI: 10.1139/cjp-2024-0128

R62: Baryogenesis through Asymmetric Reheating in the Mirror Twin Higgs
Gonzalo Alonso-Álvarez, David Curtin, Andrija Rasovic, Zhihan Yuan
e-Print: 2311.06341 [hep-ph]
JHEP 05 (2024) 069

R61: Gravitational waves and tadpole resummation: Efficient and easy convergence of finite temperature QFT
David Curtin, Jyotirmoy Roy, Graham White
e-Print: 2211.08218 [hep-ph]
Phys.Rev.D 109 (2024) 11, 116001

R60: Dissipative Dark Substructure: The Consequences of Atomic Dark Matter on Milky Way Analog Subhalos
Caleb Gemmell, Sandip Roy, Xuejian Shen, David Curtin, Mariangela Lisanti, Norman Murray, Philip F. Hopkins
e-Print: 2311.02148 [astro-ph.GA]
Astrophys.J. 967 (2024) 1, 21

R59: Electromagnetic Signatures of Mirror Stars
Isabella Armstrong, Berkin Gurbuz, David Curtin, Christopher Matzner
e-Print: 2311.18086 [astro-ph.HE]
Astrophys.J. 965 (2024) 1, 42

R58: Dark Sector Glueballs at the LHC
Austin Batz, Timothy Cohen, David Curtin, Caleb Gemmell, Graham D. Kribs
e-Print: 2310.13731 [hep-ph]
JHEP 04 (2024) 070

R57: Long Lived Particle Decays in MATHUSLA
David Curtin, Jaipratap Singh Grewal
e-Print: 2308.05860 [hep-ph]
Phys.Rev.D 109 (2024) 7, 075017

R56: Dark Photons from Charged Pion Bremsstrahlung at Proton Beam Experiments
David Curtin, Yonatan Kahn, Rachel Nguyen
e-Print: 2305.19309 [hep-ph]
Phys.Rev.D 108 (2023) 9, 095039

R55: Precision Cosmological Constraints on Atomic Dark Matter
Saurabh Bansal, Jared Barron, David Curtin, Yuhsin Tsai
e-Print: 2212.02487 [hep-ph]
JHEP 10 (2023) 095

R54: Indirect Detection of Dark Matter Annihilating into Dark Glueballs
David Curtin, Caleb Gemmell
e-Print: 2211.05794 [hep-ph]
JHEP 09 (2023) 010

R53: Simulating Atomic Dark Matter in Milky Way Analogues
Sandip Roy, Xuejian Shen, Mariangela Lisanti, David Curtin, Norman Murray, Philip F. Hopkins
e-Print: 2304.09878 [astro-ph.GA]
Astrophys.J.Lett. 954 (2023) 2, L40

R52: Dark Matter or Regular Matter in Neutron Stars? How to tell the difference from the coalescence of compact objects
Maurício Hippert, Emily Dillingham, Hung Tan, David Curtin, Jacquelyn Noronha-Hostler et al.
e-Print: 2211.08590 [astro-ph.HE]
Phys.Rev.D 107 (2023) 11, 115028

R51: Simulating glueball production in Nf=0 QCD
David Curtin, Caleb Gemmell, Christopher B. Verhaaren
e-Print: 2202.12899 [hep-ph]
Phys.Rev.D 106 (2022) 7, 075015

R50: Systematically testing singlet models for (g-2)μ
Rodolfo Capdevilla, David Curtin, Yonatan Kahn and Illinois U., Urbana), Gordan Krnjaic
e-Print: 2112.08377 [hep-ph]
JHEP 04 (2022), 129

R49: How to search for mirror stars with Gaia
Aaron Howe, Jack Setford, David Curtin, Christopher D. Matzner
e-Print: 2112.05766 [hep-ph]
JHEP 07 (2022), 059

R48: Resurrecting the fraternal twin WIMP miracle
David Curtin, Shayne Gryba, Dan Hooper, Jakub Scholtz, Jack Setford
e-Print: 2106.12578 [hep-ph]
Phys.Rev.D 105 (2022) 3, 035033

R47: Mirror neutron stars
Maurício Hippert, Jack Setford, Hung Tan, David Curtin, Jacquelyn Noronha-Hostler et al.
e-Print: 2103.01965 [astro-ph.HE]
Phys.Rev.D 106 (2022) 3, 035025

R46: No-lose theorem for discovering the new physics of (g-2)μ at muon colliders
Rodolfo Capdevilla, David Curtin, Yonatan Kahn, Gordan Krnjaic
e-Print: 2101.10334 [hep-ph]
Phys.Rev.D 105 (2022) 1, 015028

R45: Using LSST Microlensing to Constrain Dark Compact Objects in Spherical and Disk Configurations
Harrison Winch, Jack Setford, Jo Bovy, David Curtin
e-Print: 2012.07136 [astro-ph.GA]
Astrophys.J. 933 (2022) 2, 177, Astrophys.J. 933 (2022), 177

R44: Unsupervised hadronic SUEP at the LHC
Jared Barron, David Curtin, Gregor Kasieczka, Tilman Plehn, Aris Spourdalakis
e-Print: 2107.12379 [hep-ph]
JHEP 12 (2021), 129

R43: Direct detection of mirror matter in Twin Higgs models
Zackaria Chacko, David Curtin, Michael Geller, Yuhsin Tsai
e-Print: 2104.02074 [hep-ph]
JHEP 11 (2021), 198

R42: Twin Higgs portal dark matter
David Curtin, Shayne Gryba
e-Print: 2101.11019 [hep-ph]
JHEP 08 (2021), 009

R41: Direct Detection of Atomic Dark Matter in White Dwarfs
David Curtin, Jack Setford
e-Print: 2010.00601 [hep-ph]
JHEP 03 (2021), 166

R40: Discovering the physics of (g-2)μ at future muon colliders
Rodolfo Capdevilla, David Curtin, Yonatan Kahn, Gordan Krnjaic
e-Print: 2006.16277 [hep-ph]
Phys.Rev.D 103 (2021) 7, 075028

R39: The MATHUSLA test stand
Maf Alidra, Cristiano Alpigiani, Austin Ball, Paolo Camarri, Roberto Cardarelli et al.
e-Print: 2005.02018 [physics.ins-det]
Nucl.Instrum.Meth.A 985 (2021), 164661

R38: On the Origin of Long-Lived Particles
Jared Barron, David Curtin
e-Print: 2007.05538 [hep-ph]
JHEP 12 (2020), 061

R37: How To Discover Mirror Stars
David Curtin, Jack Setford
e-Print: 1909.04071 [hep-ph]
Phys.Lett.B 804 (2020), 135391

R36: Signatures of Mirror Stars
David Curtin, Jack Setford
e-Print: 1909.04072 [hep-ph]
JHEP 03 (2020), 041

R35: Searching for long-lived particles beyond the Standard Model at the Large Hadron Collider
Juliette Alimena, James Beacham, Martino Borsato, Yangyang Cheng, Xabier Cid Vidal et al.
e-Print: 1903.04497 [hep-ex]
J.Phys.G 47 (2020) 9, 090501

R34: * Physics Beyond Colliders at CERN: Beyond the Standard Model Working Group Report
J. Beacham, C. Burrage, D. Curtin, A. De Roeck, J. Evans et al.
e-Print: 1901.09966 [hep-ex]
J.Phys.G 47 (2020) 1, 010501

R33: Closing the light gluino gap with electron-proton colliders
David Curtin, Kaustubh Deshpande, Oliver Fischer, Jose Zurita
e-Print: 1812.01568 [hep-ph]
Phys.Rev.D 99 (2019) 5, 055011

R32: Long-Lived Particles at the Energy Frontier: The MATHUSLA Physics Case
David Curtin, Marco Drewes, Matthew McCullough, Patrick Meade, Rabindra N. Mohapatra et al.
e-Print: 1806.07396 [hep-ph]
Rept.Prog.Phys. 82 (2019) 11, 116201

R31: Dynamical Dark Matter, MATHUSLA, and the Lifetime Frontier
David Curtin, Keith R. Dienes, Brooks Thomas
e-Print: 1809.11021 [hep-ph]
Phys.Rev.D 98 (2018) 11, 115005

R30: Cosmological Signatures of a Mirror Twin Higgs
Zackaria Chacko, David Curtin, Michael Geller, Yuhsin Tsai
e-Print: 1803.03263 [hep-ph]
JHEP 09 (2018), 163

R29: New Physics Opportunities for Long-Lived Particles at Electron-Proton Colliders
David Curtin, Kaustubh Deshpande, Oliver Fischer, José Zurita
e-Print: 1712.07135 [hep-ph]
JHEP 07 (2018), 024

R28: Analysis of Long Lived Particle Decays with the MATHUSLA Detector
David Curtin, Michael E. Peskin
e-Print: 1705.06327 [hep-ph]
Phys.Rev.D 97 (2018) 1, 015006

R27: Thermal Resummation and Phase Transitions
David Curtin, Patrick Meade, Harikrishnan Ramani
e-Print: 1612.00466 [hep-ph]
Eur.Phys.J.C 78 (2018) 9, 787

R26: Flashes of Hidden Worlds at Colliders
David Curtin, Raman Sundrum
e-Print: 1702.02524 [hep-ph]
Physics Today, June 2017, page 46

R25: New Detectors to Explore the Lifetime Frontier
John Paul Chou, David Curtin, H.J. Lubatti
e-Print: 1606.06298 [hep-ph]
Phys.Lett.B 767 (2017), 29-36

R24: Data-driven Model-independent Searches for Long-lived Particles at the LHC
Andrea Coccaro, David Curtin, H.J. Lubatti, Heather Russell, Jessie Shelton
e-Print: 1605.02742 [hep-ph]
Phys.Rev.D 94 (2016) 11, 113003

R23: Quirky Explanations for the Diphoton Excess
David Curtin, Christopher B. Verhaaren
e-Print: 1512.05753 [hep-ph]
Phys.Rev.D 93 (2016) 5, 055011

R22: A Quirky Probe of Neutral Naturalness
Zackaria Chacko, David Curtin, Christopher B. Verhaaren
e-Print: 1512.05782 [hep-ph]
Phys.Rev.D 94 (2016) 1, 011504

R21: Towards a No-Lose Theorem for Naturalness
David Curtin, Prashant Saraswat
e-Print: 1509.04284 [hep-ph]
Phys.Rev.D 93 (2016) 5, 055044

R20: A facility to Search for Hidden Particles at the CERN SPS: the SHiP physics case
Sergey Alekhin, Wolfgang Altmannshofer, Takehiko Asaka, Brian Batell, Fedor Bezrukov et al.
e-Print: 1504.04855 [hep-ph]
Rept.Prog.Phys. 79 (2016) 12, 124201

R19: Discovering Uncolored Naturalness in Exotic Higgs Decays
David Curtin, Christopher B. Verhaaren
e-Print: 1506.06141 [hep-ph]
JHEP 12 (2015), 072

R18: Uncovering light scalars with exotic Higgs decays to bbμμ
David Curtin, Rouven Essig, Yi-Ming Zhong
e-Print: 1412.4779 [hep-ph]
JHEP 06 (2015), 025

R17: Illuminating Dark Photons with High-Energy Colliders
David Curtin, Rouven Essig, Stefania Gori, Jessie Shelton
e-Print: 1412.0018 [hep-ph]
JHEP 02 (2015), 157

R16: Testing Electroweak Baryogenesis with Future Colliders
David Curtin, Patrick Meade, Chiu-Tien Yu
e-Print: 1409.0005 [hep-ph]
JHEP 11 (2014), 127

R15: Natural SUSY in Plain Sight
David Curtin, Patrick Meade, Pin-Ju Tien
e-Print: 1406.0848 [hep-ph]
Phys.Rev.D 90 (2014) 11, 115012

R14: The Double-Dark Portal
David Curtin, Yuhsin Tsai
e-Print: 1405.1034 [hep-ph]
JHEP 11 (2014), 136

R13: Exotic decays of the 125 GeV Higgs boson
David Curtin, Rouven Essig, Stefania Gori, Prerit Jaiswal, Andrey Katz et al.
e-Print: 1312.4992 [hep-ph]
Phys.Rev.D 90 (2014) 7, 075004

R12: Direct Detection with Dark Mediators
David Curtin, Ze'ev Surujon, Yuhsin Tsai
e-Print: 1312.2618 [hep-ph]
Phys.Lett.B 738 (2014), 477-482

R11: Measuring the tth coupling from same-sign dilepton + 2b measurements
David Curtin, Jamison Galloway, Jay G. Wacker
e-Print: 1306.5695 [hep-ph]
Phys.Rev.D 88 (2013) 9, 093006

R10: Casting Light on BSM Physics with SM Standard Candles
David Curtin, Prerit Jaiswal, Patrick Meade, Pin-Ju Tien
e-Print: 1304.7011 [hep-ph]
JHEP 08 (2013), 068

R9: Boosted Multijet Resonances and New Color-Flow Variables
David Curtin, Rouven Essig, Brian Shuve
e-Print: 1210.5523 [hep-ph]
Phys.Rev.D 88 (2013), 034019

R8: Charginos Hiding In Plain Sight
David Curtin, Prerit Jaiswal, Patrick Meade
e-Print: 1206.6888 [hep-ph]
Phys.Rev.D 87 (2013) 3, 031701

R7: Excluding Electroweak Baryogenesis in the MSSM
David Curtin, Prerit Jaiswal, Patrick Meade
e-Print: 1203.2932 [hep-ph]
JHEP 08 (2012), 005

R6: Spontaneous R-symmetry Breaking with Multiple Pseudomoduli
David Curtin, Zohar Komargodski, David Shih, Yuhsin Tsai
e-Print: 1202.5331 [hep-th]
Phys.Rev.D 85 (2012), 125031

R5: Mixing It Up With MT2: Unbiased Mass Measurements at Hadron Colliders
David Curtin
e-Print: 1112.1095 [hep-ph]
Phys.Rev.D 85 (2012), 075004

R4: Supersymmetry Breaking Triggered by Monopoles
Csaba Csaki, David Curtin, Vikram Rentala, Yuri Shirman, John Terning
e-Print: 1108.4415 [hep-th]
Phys.Rev.D 85 (2012), 045014

R3: Singlet-Stabilized Minimal Gauge Mediation
David Curtin, Yuhsin Tsai
e-Print: 1011.2766 [hep-th]
Phys.Rev.D 83 (2011), 075005

R2: SUSY-Yukawa Sum Rule at the LHC
Monika Blanke, David Curtin, Maxim Perelstein
e-Print: 1004.5350 [hep-ph]
Phys.Rev.D 82 (2010), 035020

R1: A Flavor Protection for Warped Higgsless Models
Csaba Csaki, David Curtin
e-Print: 0904.2137 [hep-ph]
Phys.Rev.D 80 (2009), 015027

9. CERN Yellow Reports

These are reports for communicating work done at CERN when journal publication is not appropriate, such as white papers or technical reports.

Numbered Y# for reference.

Y5: ** Interim report for the International Muon Collider Collaboration (IMCC)
International Muon Collider Collaboration
e-Print: 2407.12450 [physics.acc-ph]
CERN Yellow Rep.Monogr. 2/2024 (2024) 1

Y4: * Report from Working Group 2 : Higgs Physics at the HL-LHC and HE-LHC
M. Cepeda, S. Gori, P. Ilten, M. Kado, F. Riva et al.
e-Print: 1902.00134 [hep-ph]
CERN Yellow Rep.Monogr. 7 (2019), 221-584

Y3: * Handbook of LHC Higgs Cross Sections: 4. Deciphering the Nature of the Higgs Sector
LHC Higgs Cross Section Working Group -- D. de Florian et al.
e-Print: 1610.07922 [hep-ph]

Y2: Physics at a 100 TeV pp collider: Higgs and EW symmetry breaking studies
R. Contino, D. Curtin, A. Katz, M.L. Mangano, G. Panico et al.
e-Print: 1606.09408 [hep-ph]
CERN Yellow Rep. (2017) 3, 255-440

Y1: Physics at a 100 TeV pp collider: beyond the Standard Model phenomena
T. Golling), M. Hance), P. Harris, M.L. Mangano, M. McCullough et al.
e-Print: 1606.00947 [hep-ph]
CERN Yellow Rep. (2017) 3, 441-634

10. Other Non-Refereed Reports or White Papers

Numbered N# for reference.

N32: * Summary Report of the Physics Beyond Colliders Study at CERN
PBC Collaboration • R. Alemany Fernández et al.
e-Print: 2505.00947 [hep-ex]

N31: MATHUSLA: An External Long-Lived Particle Detector to Maximize the Discovery Potential of the HL-LHC
MATHUSLA Collaboration • Branden Aitken et al.
e-Print: 2504.01999 [physics.ins-det]
Input to the 2026 update of the European Strategy for Particle Physics.

N30: ** United States Muon Collider Community White Paper for the European Strategy for Particle Physics Update
M. Begel, P. Bhat, N. Craig, S. Dasu, K. DiPetrillo et al.
e-Print: 2503.23695 [hep-ex]

N29: Conceptual Design Report for the MATHUSLA Long-Lived Particle Detector near CMS
MATHUSLA Collaboration • Branden Aitken et al.
E-Print: 2503.20893 [physics.ins-det]

N28: ** Towards a muon collider
Carlotta Accettura, Dean Adams, Rohit Agarwal, Claudia Ahdida, Chiara Aime et al.
e-Print: 2303.08533 [physics.acc-ph]

N27: * TF07 Snowmass Report: Theory of Collider Phenomena
F. Maltoni (Louvain U., CP3 and INFN, Bologna and U. Bologna, DIFA), S. Su, J. Thaler, T.K. Aarrestad, A. Aboubrahim et al.
e-Print: 2210.02591 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N26: * Report of the Topical Group on Physics Beyond the Standard Model at Energy Frontier for Snowmass 2021
Tulika Bose, Antonio Boveia, Caterina Doglioni, Simone Pagan Griso, James Hirschauer et al.
e-Print: 2209.13128 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N25: * Snowmass Theory Frontier: Astrophysics and Cosmology
Daniel Green, Joshua T. Ruderman, Benjamin R. Safdi, Jessie Shelton, Ana Achucarro et al.
e-Print: 2209.06854 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N24: * Muon Collider Forum Report
K.M. Black), S. Jindariani, D. Li, F. Maltoni (Louvain U., CP3 and INFN, Bologna and U. Bologna, DIFA), P. Meade et al.
e-Print: 2209.01318 [hep-ex]

N23: * Theory, phenomenology, and experimental avenues for dark showers: a Snowmass 2021 report
Guillaume Albouy, Jared Barron, Hugues Beauchesne, Elias Bernreuther, Marcella Bona et al.
e-Print: 2203.09503 [hep-ph]
Eur.Phys.J.C 82 (2022) 12, 1132
Contribution to: 2022 Snowmass Summer Study

N22: ** Simulated Detector Performance at the Muon Collider
Muon Collider Collaboration -- N. Bartosik et al.
e-Print: 2203.07964 [hep-ex]
Contribution to: 2022 Snowmass Summer Study

N21: Recent Progress and Next Steps for the MATHUSLA LLP Detector
MATHUSLA Collaboration -- Cristiano Alpigiani et al.
e-Print: 2203.08126 [hep-ex]
Contribution to: 2022 Snowmass Summer Study

N20: * The Physics of Light Relics
Cora Dvorkin, Joel Meyers), Peter Adshead, Mustafa Amin, Carlos A. Argüelles et al.
e-Print: 2203.07943 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N19: ** A Muon Collider Facility for Physics Discovery
Muon Collider Collaboration -- D. Stratakis et al.
e-Print: 2203.08033 [physics.acc-ph]

N18: ** Promising Technologies and R&D Directions for the Future Muon Collider Detectors
Muon Collider Collaboration -- S. Jindariani et al.
e-Print: 2203.07224 [physics.ins-det]
Contribution to: 2022 Snowmass Summer Study

N17: * Muon Collider Physics Summary
Chiara Aime, Aram Apyan, Mohammed Attia Mahmoud Mohammed, Nazar Bartosik, Fabian Batsch et al.
e-Print: 2203.07256 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N16: The physics case of a 3 TeV muon collider stage
Muon Collider Collaboration -- Jorge de Blas et al.
e-Print: 2203.07261 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N15: Snowmass2021 Cosmic Frontier White Paper: Dark Matter Physics from Halo Measurements
Keith Bechtol, Simon Birrer, Francis-Yan Cyr-Racine, Katelin Schutz, Susmita Adhikari et al.
e-Print: 2203.07354 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N14: Early-Universe Model Building
Pouya Asadi, Saurabh Bansal, Asher Berlin, Raymond T. Co, Djuna Croon et al.
e-Print: 2203.06680 [hep-ph]
Contribution to: 2022 Snowmass Summer Study

N13: Review of opportunities for new long-lived particle triggers in Run 3 of the Large Hadron Collider
Juliette Alimena, James Beacham), Freya Blekman, Adrián Casais Vidal, Xabier Cid Vidal et al.
e-Print: 2110.14675 [hep-ex]

N12: An Update to the Letter of Intent for MATHUSLA: Search for Long-Lived Particles at the HL-LHC
MATHUSLA Collaboration -- Cristiano Alpigiani et al.
e-Print: 2009.01693 [physics.ins-det]

N11: ** The Large Hadron-Electron Collider at the HL-LHC
LHeC Collaborationand FCC-he Study Group -- P. Agostini et al.
e-Print: 2007.14491 [hep-ex]
J.Phys.G 48 (2021) 11, 110501

N10: Explore the lifetime frontier with MATHUSLA
MATHUSLA Collaboration -- Henry Lubatti et al.
e-Print: 1901.04040 [hep-ex]
JINST 15 (2020) 06, C06026
Input to the update process of the European Strategy for Particle Physics

N9: ** HE-LHC: The High-Energy Large Hadron Collider : Future Circular Collider Conceptual Design Report Volume 4
FCC Collaboration -- A. Abada et al.
Eur.Phys.J.ST 228 (2019) 5, 1109-1382

N8: ** FCC-hh: The Hadron Collider : Future Circular Collider Conceptual Design Report Volume 3
FCC Collaboration -- A. Abada et al.
Eur.Phys.J.ST 228 (2019) 4, 755-1107

N7: ** FCC-ee: The Lepton Collider : Future Circular Collider Conceptual Design Report Volume 2
FCC Collaboration -- A. Abada et al.
Eur.Phys.J.ST 228 (2019) 2, 261-623

N6: ** FCC Physics Opportunities : Future Circular Collider Conceptual Design Report Volume 1
FCC Collaboration -- A. Abada et al.
Eur.Phys.J.C 79 (2019) 6, 474

N5: * Summary Report of Physics Beyond Colliders at CERN
R. Alemany, C. Burrage, H. Bartosik, J. Bernhard, J. Boyd et al.
e-Print: 1902.00260 [hep-ex]

N4: ** CEPC Conceptual Design Report: Volume 2 - Physics & Detector
CEPC Study Group -- João Barreiro Guimarães da Costa et al.
e-Print: 1811.10545 [hep-ex]

N3: A Letter of Intent for MATHUSLA: A Dedicated Displaced Vertex Detector above ATLAS or CMS.
MATHUSLA Collaboration -- Cristiano Alpigiani et al.
e-Print: 1811.00927 [physics.ins-det]

N2: ** The Higgs Portal and Cosmology
Ketevi Assamagan, Chien-Yi Chen, John Paul Chou, David Curtin, Michael A. Fedderke et al.
e-Print: 1604.05324 [hep-ph]

N1: ** CEPC-SPPC Preliminary Conceptual Design Report. 1. Physics and Detector
Muhammd Ahmad, Daniele Alves, Haipeng An, Qi An, Abdesslam Arhrib (Hassan 1st U., Settat) et al.

11. Conference Proceedings

Numbered C# for reference.

C4: ** Mirror Neutron Stars: How QCD can be used to study dark matter through gravitational waves
Maurício Hippert, Jack Setford, Hung Tan, David Curtin, Jacquelyn Noronha-Hostler et al.
e-Print: 2207.13063 [nucl-th]

C3: ** Probing BSM physics with electron-proton colliders
David Curtin, Kaustubh Deshpande, Oliver Fischer, José Zurita
e-Print: 1805.12533 [hep-ph]
PoS DIS2018 (2018), 090

C2: ** Towards an Understanding of the Correlations in Jet Substructure
D. Adams, A. Arce, L. Asquith), M. Backovic, T. Barillari et al.
e-Print: 1504.00679 [hep-ph]
Eur.Phys.J.C 75 (2015) 9, 409

C1: ** Boosted Objects and Jet Substructure at the LHC. Report of BOOST2012, held at IFIC Valencia, 23rd-27th of July 2012
A. Altheimer, A. Arce, L. Asquith, J. Backus Mayes, E. Bergeaas Kuutmann et al.
e-Print: 1311.2708 [hep-ex]
Eur.Phys.J.C 74 (2014) 3, 2792

12. Manuscripts on arXiv, submitted to publishers

Numbered A# for reference.

A3: Generalized Predictions for the Electromagnetic Signatures of Mirror Stars
Franco Cabral, Stuart Williamson, David Curtin, Christopher D. Matzner
e-Print: 2604.00106 [astro-ph.HE]

A2: Enhanced Cosmic-Ray Antinuclei Fluxes with Dark Matter Annihilation into SUEPs
Mattia Di Mauro, Caleb Gemmell, Austin Batz, David Curtin, Fiorenza Donato, Nicolao Fornengo, Graham D. Kribs
e-Print: 2602.15132 [hep-ph]

A1: Constraining Dark Acoustic Oscillations with the High-Redshift UV Luminosity Function
Jared Barron, David Curtin, Hongwan Liu, Julian Munoz, Sandip Roy
e-Print: 2512.01998 [astro-ph.CO]

13. Invited Lectures

i. Pre-Eminent Seminars and Colloquia:

Numbered P# for reference.

P15: "The Cosmology and Astrophysics of Dark Complexity", Physics Theory Colloquium
- University of Notre Dame, Indiana, USA (27 Sep 2023)

P14: "A no-lose theorem for discovering the new physics of $(g-2)_\mu$", Physics Theory Colloquium/Seminar
- UC Berkeley Theory Seminar, Berkeley, CA (12. April 2021, virtual)
- Theory Colloquium, Fermi National Accelerator Laboratory, Batavia, IL (14. April 2021, virtual)
- Stanford Phenomenology Seminar, Palo Alto, CA (7 May 2021, virtual)
- Light Dark World Workshop, PITT, Pittsburgh, PA (14 Dec 2021)

P13: "Searching for Dark Complexity with Colliders and Telescopes", Physics Theory Colloquium
- University of Arizona, Tucson, AZ (13. Nov 2020, virtual)
- University of Washington, Seattle, WA (16. Nov 2020, virtual)

P12: "Cosmology and Astrophysics of the Twin Higgs: from the CMB to Mirror Stars", Physics Theory Colloquium
- University of Illinois, Urbana-Champaign, IL (4. Nov 2019)
- McMaster University, Hamilton, Ontario (27. Nov 2019)

P11: "Hidden Sectors and Long-Lived Particle Signatures"
- Plenary Talk, COSMO19 Conference, Aachen, Germany (5. September 2019)
- Plenary Talk, SUSY 2019 Conference, Corpus Christi, TX, (22 May 2019)

P10: "Searches for Long-Lived Particles", Plenary Talk, Phenomenology 2019 Symposium, Pittsburgh, PA, (6 May 2019)

P9: "Particle Physics at the Lifetime Frontier", Physics Theory Colloquium,
- TUM, SFB 1258, Munich, Germany (3 June 2019)
- University of Toronto, Toronto, Canada (11 Oct 2018)
- MIT, Boston, MA (22 Oct 2018)
- University of Oklahoma, Norman, OK (8 Nov 2018)
- Carleton University, Carleton, Canada (20 Nov 2018)

P8: "Long-lived particles at the Energy Frontier", Plenary talk, 30th Rencontres de Blois on "Particle Physics and Cosmology", Blois, France (5 Jun 2018)

P7: "Flashes of Hidden Worlds at Colliders", Physics Theory Colloquium,
- York University, Toronto ON (6 Feb 2018)
- University of Oregon, Eugene, OR (16 Nov 2017)
- Simon Fraser University, Vancouver, Canada (29 Sep 2017)
- TRIUMF, Vancouver, Canada (28 Sep 2017)
- UCSC, Santa Cruz, CA (3 April 2017)

P6: “New physics with exotic or long-lived signatures”, Plenary talk, SEARCH 2016 Workshop, Oxford, U.K. (2 Sep 2016)

P5: “Neutral Naturalness – Theory and Signatures”, Plenary talk, “Higgs and Beyond” PITT-PACC Workshop, Pittsburgh, PA (3-5 Dec 2015)

P4: “BSM Higgs Sectors”, Invited talk, “FCC Week 2015”, Washington, DC (23 - 27 Mar 2015)

P3: “Ratios and characteristic distributions in the search for deviation from the SM productions”, Plenary talk, “Next Steps in the Energy Frontier” Workshop, FNAL, IL (25-28 Aug 2014)

P2: “Exotic Higgs Sectors”, University of Maryland / John Hopkins Joint Seminar, MA (28 Apr 2014)

P1: “Exotic Higgs Sectors”, Plenary talk, “Exotics Physics with ATLAS at 14 TeV” Workshop, Eilat, Israel (9 Feb 2014)

ii. Invited Seminars:

Numbered S# for reference.

S113: “The long-lived and unconventional theory landscape”, 2025 SEARCH Conference, CERN, Geneva (22 Oct 2025)

S112: “On Thermal Resummation”, CERN Theory Institute on Effective Theories for Nonperturbative Physics, CERN, Geneva (8 Aug 2025)

S111: “Making (Neutron) Stars from New Physics”, Making Neutron Stars a Laboratory for New Physics workshop, CERN, Geneva (13 Jul 2026)

S110: “The Theory of Exotic Signatures at the HL-LHC”, BSM benchmarks for next-generation triggers workshop, CERN, Geneva (4 Jul 2025)

S109: “The Theory Space of the Flavour Problem”, BNL Theory Seminar (remote), Brookhaven, NY (3 Jul 2025)

S108: “The Theory Space of the Flavour Problem”, TH BSM Forum, CERN, Geneva (20 Mar 2025)

S107: “Roadmap of DM Models”, Roadmap of Dark Matter models for Run 3 Workshop (zoom), CERN, Geneva (13-17 May 2024)

S106: “The Physics of Dark Glueballs”, Particle Physics-Astrophysics-Cosmology Webinar, Nanjing Normal University, China (23 Apr 2024)

S105: “Multi-Scale Probes of Atomic Dark Matter”, EPP Theory Seminar, SLAC, California, USA (6 Dec 2023)

S104: “Multi-Scale Probes of Atomic Dark Matter”, SNOLAB Seminar, Sudbury, Canada (16 Oct 2023)

S103: “MATHUSLA LLP Detector Proposal: Current Status and Prospects”, Topic of the Week Seminar, Fermilab, Illinois, USA (26 Sep 2023)

S102: “The Cosmology and Astrophysics of Dark Complexity", CERN TH BSM Forum, CERN, Geneva, Switzerland (14 Jul 2023)

S101: “An Overview of Modern Dark Complexity”, CITA Blackboard Seminar, University of Toronto, Toronto, Canada (5 April 2023)

S100: “The Cosmology and Astrophysics of Dark Complexity”, plenary talk at WNPPC2023 - 60th Winter Nuclear Particle Physics Conference, Banff, Canada (16 Feb 2023)

S99: “Searching for Mirror Stars with Gaia”, PITT PACC Workshop on Atomic Dark Matter, University of Pittsburgh, PA (26-28 Jan 2023)

S98: “Complex Dark Matter Dynamics", QMAP Particles/Cosmology seminar, UC Davis, Davis, California (9 May 2022)

S97: “Complex Dark Matter Dynamics”, “Mega Dark Matter Workshop”, Mainz Institute for Theoretical Physics, Mainz, Germany (4 May 2022)

S96: “Cosmology and Astrophysics of Dark Complexity”, Virtual Particle-Astro-Nuclear (PAN) Seminar, Wayne State University, Detroit, MI (16 Oct 2021)

S95: “MATHUSLA LLP Detector Proposal: Current Status and Prospects”, Virtual Experimental Seminar, SUNY Stony Brook, NY (28 Sep 2021)

S94: “MATHUSLA LLP Detector Proposal: Current Status and Prospects”, Invited contribution at Quarks “2020” virtual workshop (8 June 2021)

S93: “Prospects to search for light feebly- interacting scalar particles at MATHUSLA, CODEX-b, FASER, ANUBIS”, Feebly Interacting Particles 2020 virtual workshop, CERN, Geneva, Switzerland (4 Sep 2020)

S92: “Perspectives on Hidden Sector Searches; From Colliders to Astrophysics”, IPP Virtual Town Hall, Canada (21 Jul 2020)

S91: “MATHUSLA LLP Detector Proposal: Current Status and Prospects”, Virtual Experimental Seminar, NISER, Odisha, India (2 Jun 2020)

S90: “Mirror Stars: A New Probe of Dark Complexity”, Theory Seminar, SUNY Buffalo, Buffalo, NY (25 Feb 2020)

S89: “Mirror Stars: A New Probe of Dark Complexity”, Theory Seminar, University of Maryland, College Park, MD (4 Nov 2019)

S88: “Current Status and Prospects for the MATHUSLA dedicated LLP detector at the HL-LHC”, TRIUMF particle physics Seminar, TRIUMF, Vancouver, Canada (23 Sep 2019)

S87: “Cosmology and Astrophysics of the Twin Higgs”, Seminar as “DESY Theorist of the Month”, DESY, Hamburg, Germany (9 Sep 2019)

S86: “Neutral NaturalnesFrom Colliders to Cosmology and Astrophysics”, New Physics with LLPs Workshop, 15th Recontres du Vietnam 2019, ICISE, Qui Nhơn, Vietnam (3 Jul 2019)

S85: “Cosmology and Astrophysics of the Twin Higgs “, Theory Seminar, Boston University, Boston, MA (25 Apr 2019)

S84: “Cosmology and Astrophysics of the Twin Higgs “, Theory Seminar, Leinweber Center for Theoretical Physics, University of Michigan, Ann Arbor, MI (12 Apr 2019)

S83: “Cosmology and Astrophysics of the Twin Higgs “, Theory Seminar, Perimeter Institute, Waterloo, Canada (27 Nov 2018)

S82: “Goals for Invisible Particle Searches at Future Facilities”, Johns Hopkins Workshop on “Beyond Standard Model: Where do we go from here?”, GGI, Florence, Italy (4 Oct 2018)

S81: “Long Lived Particles”, CERN-CKC workshop on “Physics at the LHC and Beyond”, CERN, Geneva, Switzerland (2 Aug 2018)

S80: “The Lifetime Frontier”, KITP Workshop on “High Energy Physics at the Sensitivity Frontier “, UCSB, Santa Barbara, CA (23 May 2018)

S79: “Top-down Physics Case for LLPs @ the LHC”, Searching for long-lived particles at the LHC: Third workshop of the LHC LLP Community, CERN, Geneva (16-18 May 2018)

S78: “BSM Opportunities at e−p Colliders”, Cornell University, Ithaca, NY (3 Nov 2017)

S77: “Probing Hidden Sectors with New External Detectors at the HE or HL-LHC”, Workshop on the physics of HL-LHC, and perspectives at HE-LHC, CERN, Geneva (31 Oct 2017)

S76: “BSM Opportunities at e−p Colliders”, NYU, New York, NY (25 Oct 2017)

S75: “The MATHUSLA Detector”, University of Toronto Experimental Seminar, ON, Canada (18 Sep 2017)

S74: “The MATHUSLA Detector: Exploring the Lifetime Frontier and Cosmic Ray Physics”, TeVPA 2017, Columbus, OH (7-11 Aug 2017)

S73: “Searches for Unconventional Signatures at Future Accelerators”, Gordon Particle Physics Conference, HKUST, Hong Kong (25-30 June 2017)

S72: “Triggering on Long-Lived Particle Signatures”, 1st workshop of LHC LLP Community, CERN, Geneva (23-26 April 2017)

S71: “Thermal Resummation and the Electroweak Phase Transition”, UMass Amherst workshop on Electroweak Phase Transition, MA (6-8 April 2017)

S70: “Flashes of Hidden Worlds at Colliders”, Physics Theory Colloquium, UCSC, Santa Cruz, CA (3 April 2017)

S69: “Hidden Sectors and New Signatures”, UCLA, Los Angeles, CA (2 March 2017)

S68: “Hidden Sectors and New Signatures”, UMass Amherst, MA, (23 Feb 2017)

S67: “Hidden Sectors and New Signatures”, University of Toronto, ON, Canada (13 Feb 2017)

S66: “Hidden Sectors and New Signatures”, University of Maryland, College Park, MD (10 Feb 2017)

S65: “Neutral Long-Lived Particle Searches at Future Colliders”, 1st FCC Physics Workshop, CERN, Geneva (16-20 Jan 2017)

S64: “Neutral Naturalness Phenomenology”, HXSWG Workshop on Exotic Higgs Decays, SLAC, Palo Alto, CA (7 Nov 2016)

S63: “Exploring the Cosmological Frontier with High Energy Colliders”, SLAC, Palo Alto, CA (4 Nov 2016)

S62: “The Lifetime Frontier”, Carleton University, ON, Canada (6 Oct 2016)

S61: “Exotic Physics at the LHC”, Multi-Boson Interaction Workshop, University of Wisconsin-Madison, WI (26. Aug 2016)

S60: “The Lifetime Frontier”, CERN-Korean Theory Institute on new LHC Data, CERN, Switzerland (29 July 2016)

S59: “Exotic Higgs Decays and Naturalness”, Brookhaven National Lab, NY (17 May 2016) “Discovering Neutral Naturalness”, UC Berkeley, CA (30 Mar 2016)

S58: “Discovering Neutral Naturalness”, University of Illinois at Urbana-Champaign, IL (14 Mar 2016)

S57: “Exploring the Cosmological Frontier with High Energy Colliders”, University of Maryland, MD (8 Feb 2016)

S56: “Discovering Neutral Naturalness”, Harvard University, MA (24 Nov 2015)

S55: “Discovering Neutral Naturalness”, Workshop on long-lived particle searches, UMass Amherst, MA (12-14 Nov 2015)

S54: “Discovering Neutral Naturalness”, Workshop on “Discoveries at the Dawn of LHC Run 2”, TRIUMF, BC (28-30 Oct 2015)

S53: “Discovering Neutral Naturalness”, Rutgers University, NJ (20 Oct 2015) “Discovering Neutral Naturalness”, University of Minnesota, MN (for 16 Oct 2015)

S52: “Probing Electroweak Baryogenesis at Future Colliders”, Electroweak Baryogenesis Workshop, UMass Amherst, MA (17 Sep 2015)

S51: “TowardsA No-Lose Theorem For Naturalness”, SUSY 15, Lake Tahoe, CA (26 Aug 2015)

S50: “Probing Uncolored Naturalness”, “Anticipating 14 TeV” Workshop, MIAPP, Munich, Germany (1 Jul 2015)

S49: “Probing Uncolored Naturalness”, Durham IPPP, United Kingdom (24 Jun 2015) “Probing Uncolored Naturalness”, Oxford University, United Kingdom (23 Jun 2015)

S48: “Probing Electroweak Baryogenesis with Exotic Higgs Decays”, Higgs Cross Section WG 3 Meeting (Exotic Higgs Decays), Fermilab, IL (21-22 May 2015)

S47: “BSM Higgs Sectors”, 9th MC4BCM Workshop, Fermilab, IL (18-20 May 2015)

S46: “Probing Colorless Naturalness”, Institute of Advanced Study, Princeton, NJ (8 May 2015)

S45: “Probing Colorless Naturalness”, CERN-CKC Theory Institute on Neutral Naturalness, CERN, Switzerland (23-26 Apr 2015)

S44: “Probing Electroweak Baryogenesis at Future Colliders”, University of Sydney, Australia (14 Apr 2015)

S43: “Probing Electroweak Baryogenesis at Future Colliders”, University of Melbourne, Australia (2 Apr 2015)

S42: “BSM Higgs and EW scale baryogenesis”, Higgs & BSM at 100 TeV Workshop, CERN, Switzerland (11-13 Mar 2015)

S41: “BSM Higgs and EW scale baryogenesis”, FCC Higgs/EWSB WG Meeting, CERN, Switzerland (25 Feb 2015)

S40: “Probing Electroweak Baryogenesis at Future Colliders”, Aspen Center for Physics, 2015 Winter Workshop (26 Jan - 1 Feb 2015)

S39: “Excluding Electroweak Baryogenesis at Future Colliders”, University of Cincinnati, OH (20 Jan 2015)

S38: “Excluding Electroweak Baryogenesis at Future Colliders”, University of Michigan, MI (22 Oct 2014)

S37: “Excluding Electroweak Baryogenesis at Future Colliders”, University of Delaware, DE (25 Sep 2014)

S36: “The Double-Dark Portal”, Brookhaven National Lab, NY (30 May 2014)

S35: “Efficient Simulation of Fake Leptons”, 8th MC4BCM Workshop, IBS, Daejeon, South Korea, (19-24 May 2014)

S34: “The Double-Dark Portal”, University of Wisconsin-Madison, WI (6. May 2014)

S33: “SUSY in Standard Model Standard Candles”, FNAL CMS LPC Seminar, IL (2. May 2014)

S32: “Introduction to Monte Carlo for Particle Physics”, Lectures at CFHEP, Beijing, China (16 Mar - 13 Apr 2014)

S31: “SUSY in Standard Model Standard Candles”, Natural Supersymmetry Workshop, University of Oregon, OR (10-12 Mar 2014)

S30: S:z“Exotic Higgs Decays @ 100 TeV”, “BSM Physics Opportunities at 100 TeV” Workshop, CERN, Switzerland (11 Feb 2014)

S29: “The Double-Dark Portal”, Technion, Israel (3 Feb 2014)

S28: “The Double-Dark Portal”, Tel Aviv University, Israel (30 Jan 2014)

S27: “Pseudo-Light Dark Matter”, Princeton, NJ (15 Nov 2013)

S26: “Sniffing out new physics with Standard Model Standard Candles”, New York University, NY (3 Oct 2013)

S25: “Sniffing out new physics with Standard Model Standard Candles”, Rutgers University, NJ (10 Sep 2013)

S24: “Sniffing out new physics with Standard Model Standard Candles”, UC Berkeley, CA (29 May 2013)

S23: “Sniffing out new physics with Standard Model Standard Candles”, UC Irvine, CA (22 May 2013)

S22: “Sniffing out new physics with Standard Model Standard Candles”, Caltech, CA (20 May 2013)

S21: “Sniffing out new physics with Standard Model Standard Candles”, SLAC, CA (15 May 2013)

S20: “Multi-Jet Resonances and New Color-Flow Variables”, University of Maryland, MD (11 Mar 2013)

S19: “Multi-Jet Resonances and New Color-Flow Variables”, MIT, MA (25 Feb 2013)

S18: “Multi-Jet Resonances and New Color-Flow Variables”, Brookhaven National Lab, NY (15 Jan 2013)

S17: “Multi-Jet Resonances and New Color-Flow Variables”, Florida State University, FL (5 Dec 2012)

S16: “Multi-Jet Resonances and New Color-Flow Variables”, University of California, Davis, CA (13 Nov 2012)

S15: “New Electroweak Physics at the LHC”, INFN, Padova, Italy (20 Jul 2012)

S14: “New Electroweak Physics at the LHC”, DESY, Hamburg, Germany (10 Jul 2012)

S13: “Singlet-Stabilized Minimal Gauge Mediation”, IPMU, Tokyo, Japan (22 Feb 2012)

S12: “EdgeFitter: A tool for unbiased mass measurement at hadron colliders”, MC4BCM Workshop, Cornell University, NY (22 - 24 Mar 2012)

S11: “Mixing It Up With MT2: Unbiased Mass Measurements at Hadron Colliders”, POwLHC Workshop, KEK, Tsukuba, Japan (17 Feb 2012)

S10: “SUSY-Breaking via Non-Perturbative Monopole Dynamics”, CERN, Geneva, Switzerland (30 Jun 2011)

S9: “SUSY-Breaking via Non-Perturbative Monopole Dynamics”, University of Western Australia (23 Jun 2011)

S8: “SUSY-Breaking via Non-Perturbative Monopole Dynamics”, University of Melbourne, Australia (20 Jun 2011)

S7: “Singlet-Stabilized Minimal Gauge Mediation”, John Hopkins University, MD (15 Apr 2011)

S6: “Singlet-Stabilized Minimal Gauge Mediation”, University of Chicago, IL (9 Mar 2011)

S5: “Singlet-Stabilized Minimal Gauge Mediation”, Harvard University, MA (1 Mar 2011)

S4: “Singlet-Stabilized Minimal Gauge Mediation”, University of California, Berkeley, CA (23 Feb 2011)

S3: “SUSY Sum Rules and MT2 Combinatorics ”, Syracuse University, NY (6 Dec 2010)

S2: “Singlet-Stabilized Minimal Gauge Mediation”, University of California, Davis, CA (8 Nov 2010)

S1: “SUSY Sum Rules and MT2 Combinatorics ”, University of Florida, FL (12 Oct 2010) “SUSY Sum Rules and MT2 Combinatorics”, University of Michigan, MI (15 Sep 2010)

14. Other Talks

Numbered O# for reference.

O16: “Mirror Stars and other probes of Dark Complexity”
TeVPA 2022, Queens University, Kingston, Ontario (8-12 Aug 2022)

O15: “A no-lose theorem for discovering the new physics of $(g-2)_\mu$”, Brookhaven Forum Virtual Workshop, Brookhaven, NY (3-5 Nov 2021)

O14: “Thermal Resummation and Phase Transitions”, MIAPP Baryogenesis Workshop, Munich, Germany (13 - 24 Jun 2016)

O13: “Towards a No-Lose Theorem for Naturalness”, Brookhaven Forum, NY (7-9 Oct 2015)

O12: “Electroweak Baryogenesis at Future Colliders”, Aspen Center for Physics, 2014 Summer Ses- sion (29 Jun - 18 Jul 2014)

O11: “The Double-Dark Portal”, “New Perspectives on Dark Matter” Workshop, FNAL, Batavia IL (28 Apr - 2 May 2014)

O10: “Dark Mediator Dark Matter”, Aspen Center for Physics, 2014 Winter Workshop (18 - 24 Jan 2014)

O9: “Multi-Jet Resonances and New Color-Flow Variables”, BOOST 2013 Workshop, Flagstaff, AZ (12-16 Aug 2013)

O8: “Multi-Jet Resonances and New Color-Flow Variables”, SB-ATLAS hep-ex Meeting, Stony Brook University, NY (24 Sep 2012)

O7: “New Electroweak Physics at the LHC”, Aspen Center for Physics, 2012 Summer Session (12 Aug - 2 Sep 2012)

O6: “Boosted RPV Gluinos”, BOOST 2012 Workshop, Valencia, Spain (23 - 27 Jul 2012)

O5: “Are Charginos Hiding in Plain Sight?”, CERN BSM-TH Workshop, Geneva, Switzerland (18 - 29 Jun 2012)

O4: “Supersymmetry Breaking Triggered by Monopoles”, SUSY 11, Fermilab, IL (28 Aug 2011 - 2 Sep 2011)

O3: “SUSY-Yukawa Sum Rule at the LHC”, SUSY 10, Bonn, Germany (23 Aug 2010)

O2: “Testing the Stop-Top Cancellation at the LHC”, Pheno 2010 Symposium, University of Wisconsin-Madison, (10 May 2010)

O1: “Testing the Stop-Top Cancellation at the LHC”, CU-CMS hep-ex Meeting, LEPP, Cornell University (6 May 2010)

15. Media and Other Public Engagements

i. Public Talks:

Numbered U# for reference.

U2: “Dark Matter and Metaphor: A Panel Discussion on Art and Astrophysics", Art Museum at the University of Toronto, video link. (21 Sep 2022)

U1: “Echoes of the Big Bang at the Large Hadron Collider”, Pint of Science Canada Festival, Imperial Pub, Toronto (20 May 2019)

ii. Media Engagements:

Numbered M# for reference.

M8: The Science in The Fiction podcast interview, “On Dark Matter”
Part 1, 30 May 2024: https://thescienceinthefiction.buzzsprout.com/2201157/episodes/15157935-ep-30-david-curtin-on-dark-matter-in-sunfall-part-1
Part 2, 6 Jun 2024: https://thescienceinthefiction.buzzsprout.com/2201157/episodes/15206767-ep-31-david-curtin-on-dark-matter-in-sunfall-part-2

M7: Event Horizon podcast interview, May 2024. “What if There is a Dark Mirror Universe All Around Us? With Prof. David Curtin"
https://www.youtube.com/watch?v=cWqgmk6q_s0

M6: Faculti podcast interview, 28 Aug 2020. The subject of the interview was our recent papers on Mirror Stars and their signatures.
https://podcasts.apple.com/ca/podcast/faculti/id1471855284

M5: New Scientist, December 2018: popular news article about Hidden Sectors and new experimental proposals to look for them, including MATHUSLA. Based on interviews with me and other scientists.
https://www.newscientist.com/article/mg24032061-600-particles-crossing-to-our-world-could-open-portal-to-dark-matter-realm/

M4: Live Science, 22 May 2018: popular news article about our MATHUSLA detector proposal, based on interviews with me and collaborators.
https://www.livescience.com/62633-lhc-stray-particles-mathusla-detection.html

M3: Quanta Magazine, September 2017: long-form article about Hidden Sectors and MATHUSLA, resulting from many interviews with me and my collaborators.
https://www.quantamagazine.org/how-the-hidden-higgs-could-reveal-our-universes-dark-sector-20170926/
This article was also picked up by Wired magazine:
https://www.wired.com/story/hidden-higgs-dark-sector/

M2: Joint Quantum Institute Podcast, July 2017. The subject of the episode was an interview with me about our MATHUSLA proposal and Hidden Sector Theories.
https://jqi.umd.edu/news/podcast/long-live-mathusla

M1: Scientific American, September 2014: I was interviewed about my work on new physics explanations of an anomalous LHC measurement at the time.
https://www.scientificamerican.com/article/signs-of-new-physics-from-the-lhc/

D. TEACHING AND MENTORING

16. Courses taught

i. Undergraduate Courses

PHY199: Dark Matter and Dark Energy are the New Black
Winter 2026
University of Toronto, Department of Physics
A discussion-based introductory breadth-course to the philosophy and modern practice of science, through the lens of fundamental particle physics, cosmology and the modern mysteries of dark matter and dark energy.

PHY197: Modern Physics for the Curious
Fall 2020, 2021
University of Toronto, Department of Physics
A discussion-based introductory course to modern physics for non-physics-majors, covering topics like quantum and particle physics,

general relativity, black holes, dark matter, cosmology and string theory.

PHY354: Classical Mechanics
Spring 2018, 2019, 2020, 2021
University of Toronto, Department of Physics
Primary textbook: Landau and Lifshitz, "Mechanics"
This course introduces the principle of least action, Lagrangian mechanics, symmetries and conservation laws, central field motion, Euler angles, solid body motion, and motion in noninertial frames. Basic features of Hamiltonian dynamics are also discussed. Other topics will be covered as time permits.

PHY484: Relativity Theory II
Spring 2022, 2023, 2024
University of Toronto, Department of Physics
Primary textbooks: variety of lecture notes and current reviews.
We begin by outlining how Einstein's equations can be derived from an action principle from scratch, then discuss possible alternative theories of gravity and extra dimensions. We then discuss the production and detection of gravitational waves as a probe of astrophysical and cosmological phenomena. Next, we develop the story of homogeneous isotropic FRW cosmology, and introduce the idea of inflation. Then we discuss aspects of the thermal physics of the early universe. After that, we give an outline of the theory of inflationary perturbations, how they grow over time, and how this can be read off the cosmic microwave background and directly dictates the formation of large scale structure in our universe today.

i. Graduate Courses

PHY2404: Quantum Field Theory II
Spring 2019, 2020, 2021, 2022, 2023
University of Toronto, Department of Physics
Primary textbooks: Schwartz “Quantum Field Theory and the Standard Model”, Peskin and Schroeder “An Introduction to Quantum Field Theory”
This QFT2 course continues the study of quantum field theory started with PHY2403 (QFT1) into more advanced topics. We will be covering: path integral formulation of quantum field theory; loops and renormalization; the renormalization group; non-abelian gauge theories; the Higgs mechanism; anomalies; effective field theory; effective potentials.

PHY1484: Relativity Theory II
cross-listed with PHY484, see above.

17. Postdocs and Students Supervised

I am primary supervisor unless otherwise indicated.

Note that while I give descriptive project titles for each person, in practice their research portfolio may be much more varied, since research by advanced graduate students and postdocs in high energy phenomenology ideally involves work on an evolving variety of subject areas in response to theoretical and experimental advances, and students are encouraged to independently pursue their own research directions, in addition to the agenda set by their supervisors, as early as possible.

Current Postdocs:

Name	**Dates**	**Project(s)**
Carl Beadle	Sep 2025 - ongoing	Non-perturbative dark sector dynamics

Past Postdocs:

Name	**Dates**	**Project(s)**	**Current or Last Known Position**
Gonzalo Alonso Álvarez	Sep 2022 - Feb 2026	Theory and Cosmology of Dark Complexity	Faculty at U. Santiago de Compostela
Rodolfo Capdevilla (joint w/ Perimeter)	Sep 2019 - Sep 2022	Physics of Future Muon Colliders	Postdoc at Fermilab
Jack Setford	Sep 2018 - Aug 2021	Theory and Detection of Mirror Stars. *Received Faculty of Arts & Science Postdoctoral Fellowship Award*	Pursuing Legal AI startup in the UK

Current PhD Students:

Name	Dates	Project(s)
Bryce Friesen	Jan 2026 - ongoing	Generalized Hybrid Partial Dressing
Chad Fairservice	Sep 2025 - ongoing	Galactic Dynamics of Atomic Dark Matter (Joint Supervision with Prof. Norman Murray)
Raphael Berthiaume	Jan 2025 - ongoing	Finite Temperature Effective Potentials in the Early Universe *Received UofT FAST Scholarship*
Micah Mellors	Jan 2023 - ongoing	Flavour violation and Naturalness *Received Ontario Graduate Scholarship*
Keegan Humphrey	Aug 2022 - ongoing	Signatures of Dark Complexity. *Received Queen Elizabeth II Graduate Scholarship, Lachlan Gilchrist Fellowship*
Linda Yuan	Jan 2022 - ongoing	Astrophysical Aspects of Twin Dark Matter.
Andrija Rasovic	Jan 2022 - ongoing	BSM signatures in the early universe. *Received Connaught International Scholarship*

Past PhD Students:

Name	Dates	Thesis Title	Current or Last Known Position
Caleb Gemmell	Jan 2020 - Jun 2025	Making a Map of Shadows and Stars: Astrophysical Probes of Dark Sectors *Received Connaught International Scholarship, Lachlan Gilchrist Fellowship, Graduate Student Exchange award from McDonald Institute*	Postdoc at University of Wisconcin-Madison
Jared Barron	Jan 2019 - Sep 2023	New Probes of Hidden Sectors: From Colliders to Cosmology *Received NSERC CGS-M, NSERC PGS-D.*	Postdoc at YITP Stony Brook
Shayne Gryba	Jan 2018 - May 2022	From Dark Matter to Leptoquarks: Phenomenology of Physics Beyond the Standard Model. *Received NSERC PGS-D.*	Part-time teaching and pursuing his own startup idea.

Past Masters Students:

Name	Dates	Project Title	Current or Last Known Position

Imran Alkhatib	May - Aug 2019	Geometric Optimization of the MATHUSLA Detector	PhD student at U of T working with Prof. Miriam Diamond
Harrison Winch (co-supervised with Prof. Jo Bovy)	May - Aug 20019	Using LSST Microlensing to Constrain Dark Compact Objects in Spherical and Disk Configurations	PhD student at U of T, working with Prof. Renee Hlozek

Current Undergraduate Research Students

Name	Dates	Position	Project
N/A			

Past Undergraduate Research Students

Name	Dates	Position	Project	Current or Last Known Position
Jillian Evelyn Escobar	Sep 2025 Nov 2025	part-time RA	Mirror Stars in atomic Dark Matter models	Completing undergrad at UofT
Jaden Cabral Cordeiro	May 2025 Dec 2025	part-time RA	Theoretical explorations of dark photon conversion in matter	Completing undergrad at UofT
Franco Cabral*	Jan 2024 - Mar 2026	part-time RA	Electromagnetic Emissions of Mirror Stars with Optically Thick Nuggets	Completing undergrad at UofT
Stuart Williamson*	Jan 2024 - Mar 2026	part-time RA	Electromagnetic Emissions of Mirror Stars with Optically Thick Nuggets	Completing undergrad at UofT
Isabella Armstrong*	Jan 2022 - Dec 2023	part-time RA	Electromagnetic Emissions of Mirror Stars with Optically Thin Nuggets	Starting Astrophysics PhD at McMaster in 2024

Berkin Gorbuz*	Jan 2022 - Dec 2023	part-time RA	Electromagnetic Emissions of Mirror Stars with Optically Thin Nuggets	Starting Physics PhD at McGill in Sep 2024
Jaipratap Grewal	Aug 2021 - Aug 2022	part-time RA	LLP Signal Acceptance and Sensitivity Estimate Studies for MATHUSLA	PhD student at UC San Diego
Aaron Howe*	May - Dec 2020	NSERC USRA	Searching for Mirror Stars with Gaia	PhD student at U of T, working with Prof. Michael Luke
Lillian Luo	Oct 2019 - June 2021	PHY479, NSERC USRA, part-time RA	LLP Signal Acceptance Studies for MATHUSLA	PhD student at Cornell University
Wentao Cui	Oct 2019 - Oct 2020	PHY479, part-time RA	LLP Signal Acceptance Studies for MATHUSLA	PhD student at MIT

* co-supervised with Prof. Chris Matzner

18. Advisory and Examining Committees

(Excluding Thesis that I supervised, listed above.)

Current Member of Ph.D. Advisory Committees:

- Theodore Yu, Jan 2026 - ongoing
- Antoine Rehberg, Jan 2026 - ongoing
- Warren Perry, Oct 2024 - ongoing
- Michael Grehan, Dec 2023 - ongoing
- William Dallaway, Dec 2023 - ongoing
- Anna Tsai, Nov 2023 - ongoing
- Gillian Godden, Jul 2023 - ongoing
- Simon Harms, Jan 2023 - ongoing
- Cedric Perron, Jan 2023 - ongoing
- Aaron Howe, Dec 2022 - ongoing
- Sebastien Roy-Garand, Dec 2021 - ongoing
- Thomas Morrison, Jun 2019 - ongoing

Past Member of Ph.D. Advisory Committees:

- Timothy Knight, May 2020 - Apr 2025
- Imran Alkhatib, Jan 2020 - Sep 2025
- Harrison Winch, May 2020 - Jun 2024
- Frank (David) Wandler, Aug 2019 - Mar 2024

- Tae Hyoun Park, Nov 2018 - Mar 2024
- Dylan Kisliuk, Oct 2017 - Mar 2023
- Jyotirmoy Roy, Nov 2017 - Aug 2023
- Henry Meng, Jan 2019 - Jul 2023
- Yifei Han, Oct 2017 - Jan 2023
- Alex Lague, Dec 2018 - Jul 2022
- Bianca Ciungu, Nov 2018 - Jan 2022
- Amalia Madden, co-supervised with Asimina Arvanitaki (PI), 2020-22
- Aris Spourdlakis, 2022
- Jordan Fazio, Dec 2017 - Jun 2021
- Randy Conklin, Oct 2019 - Jun 2021
- Thomas De Beer, Nov 2017 - 2019

Member of B.Sc. Thesis Examining Committees:

N/A

Member of M.Sc. Examining Committees:

- Gabriel Owh, Sep 2024
- Ruchi Soni, Aug 2024
- Jaipratap Grewal, Sep 2023
- Michael Grehan, Aug 2023
- Lewis Chan, Aug 2023
- Imran Alkhatib, Aug 2019
- Thomas Morrison, Aug 2018

Member of Physics Department and/or School of Graduate Studies Ph.D. Examining Committees:

- Matthew Inglis-Whalen, Mar 2021
- Dylan Linthorne, Dec 2021
- Matthew Wilson, Nov 2021
- Martin Ojeda, May 2021
- Charles J. Woodford, Sep 2020
- Haider Abidi, May 2020
- Kyle Cormier, Oct 2019
- Erfan Shalchian, Aug 2019
- Jesse Cresswell, Aug 2019
- David DeMarco, Mar 2019

E. ADMINISTRATIVE POSITIONS

19. i. Positions held and service on committees/organizations within the University

University of Toronto Physics Department:

- Organizer of Shuttle between University of Toronto and Perimeter Institute, Jan 2018 - ongoing
- Chair of Inclusivity, Diversity, Equity & Accessibility Committee: Jul 2023 - Jul 2024, Jan 2026 - ongoing
- Weekly Colloquium Series Organizational Committee, Aug 2019 - Apr 2020, Jul 2023 - Jul 2024
- Space & Renovations Committee, Aug 2021 - April 2023, Jan 2026 - ongoing
- Graduate Admissions Committee, Aug 2019 - Jul 2024
- Inclusivity, Diversity, Equity & Accessibility Committee, Aug 2021 - April 2023
- Physics Computing Services Committee, Jan 2020 - Apr 2021
- Public Outreach Committee, Jan 2019 - Apr 2021.
- hep-ex hiring committee, Jan - Jun 2020
- Undergraduate Curriculum Committee, Jan 2019 - May 2019.

ii. Positions held and service on committees and organizations outside the University of scholarly and academic significance.

- Organizer: “Workshop on Defining New Simulation Frontiers for Dark Matter Discovery”, Fields Institute, University of Toronto (9 - 11 Oct 2024)
- Co-founder and organizer of the BSM PANDEMIC virtual seminar series (Phenomenology And Networking Despite Everyone Meandering Inside Cautiously). www.bsmpandemic.com (May 2020 - Dec 2021).
- Local organizing committee for Lepton Photon 2019: XXIX International Symposium on Lepton Photon Interactions at High Energies, Toronto, Canada (5-10 Aug 2019).
- Organizer: 1st workshop of the MATHUSLA Collaboration, Simons Center, Stony Brook University, Stony Brook, NY (27-31 Aug 2018)
- Organizer: “New ideas in detecting long-lived particles at the LHC” workshop, Lawrence Berkeley National Laboratory, (10-13 July 2018)
- Organizer: “Hidden Naturalness Workshop”, University of Maryland, MD (28-30 April 2016)
- Organizer: “The Many Faces of Naturalness” workshop, Aspen, CO (29 May - 19 Jun 2016)

F. OTHER RELEVANT INFORMATION

Referee Experience:

- Physical Review D
- Journal of High Energy Physics
- Physical Review Letters
- European Physical Journal C
- Physics Letters B
- Journal of Cosmology and Astrophysics
- Computer Physics Communications
- Machine Learning: Science and Technology

Attended Workshops, Conferences and Schools:

Numbered W# for reference.

W92: SEARCH Workshop, CERN, Geneva (20-24 Oct 2025)

W91: CERN Theory Institute: Advancing Gravitational Wave Predictions from Cosmological First-Order Phase Transitions, CERN, Geneva (25-27 Aug 2025)

W90: CERN Theory Institute: Effective Theories for Nonperturbative Physics, CERN, Geneva (3-15 Aug 2025)

W89: Evolving Beyond the Standard Model, CERN Theory Workshop, CERN, Geneva (30 Jun - 11 Jul 2025)

W88: “Workshop on Defining New Simulation Frontiers for Dark Matter Discovery”, Fields Institute, University of Toronto (9 - 11 Oct 2024)

W87: P5 Town Hall Meeting on the Future of High Energy Physics, Brookhaven National Laboratory, NY (12-14 April 2023)

W86: WNPPC2023 - 60th Winter Nuclear Particle Physics Conference, Banff, Canada (16-19 Feb 2023

W85: PITT PACC Workshop on Atomic Dark Matter, University of Pittsburgh, PA (26-28 Jan 2023)

W84: TeVPA 2022 Astroparticle Physics Conference, Kingston, Canada (8-9 Aug 2022)

W83: Cosmological Probes of New Physics workshop, Maryland Center for Fundamental Physics, University of Maryland, College Park, MD (15-17 Sep 2022)

W82: 2022 Aspen summer workshop on Effective Field Theories, Aspen, Colorado (15-26 Aug 2022)

W81: 2022 MITP Workshop on “Mega Dark Matter”, Mainz, Germany (2-5 May 2022)

W80: 2022 MIAPP Workshop on “Novel Hidden Sectors”, Munich, Germany (25-29 Apr 2022)

W79: GGI Workshop “New Physics from the Sky”, Florence, Italy (8-12 Nov 2021)

W78: Brookhaven Forum, Brookhaven National Laboratory, NY (3-5 Nov 2021, virtual)

W77: PITT PACC Workshop: Muon collider physics, University of Pittsburgh, PA (30 Nov - 2 Dec 2020, virtual)

W76: Searching for Long-Lived Particles at the LHC and beyong: 8th workshop of the LHC LLP Community, CERN, Geneva, Switzerland (16 - 20 Nov 2020, virtual)

W75: Feebly Interacting Particles 2020 virtual workshop, CERN, Geneva, Switzerland (31 Aug - 4 Sep 2020)

W74: Searching for long-lived particles at the LHC: Seventh workshop of the LHC LLP Community, CERN, Geneva, Switzerland (25 - 27 May 2020, virtual)

W73: KITP Workshop on “Origin of the Vacuum Energy and Electroweak Scales”, UCSB, Santa Barbara, CA (22 Jul - 2 Aug 2019)

W72: New Physics with LLPs Workshop, 15th Recontres du Vietnam 2019, ICISE, Qui Nhơn, Vietnam (1-5 Jul 2019)

W71: 2019 MIAPP Workshop “The Weak Scale at a Crossroads: Lessons from the LHC and Beyond”, Munich, Germany, (3-14 Jun 2019)

W70: SUSY 2019 Conference, Corpus Christi, TX, (20-24 May 2019)

W69: Phenomenology 2019 Symposium, Pittsburgh, PA, (6-8 May 2019)

W68: Johns Hopkins Workshop on “Beyond Standard Model: Where do we go from here?”, GGI, Florence, Italy (1-5 Oct 2018)

W67: CERN-CKC workshop on “Physics at the LHC and Beyond”, CERN, Geneva, Switzerland (30 Jul - 9 Aug 2018)

W66: “Long-lived particles at the Energy Frontier”, Plenary talk, 30th Rencontres de Blois on "Particle Physics and Cosmology”, Blois, France (4-8 Jun 2018)

W65: KITP Workshop on “High Energy Physics at the Sensitivity Frontier “, UCSB, Santa Barbara, CA (21-25 May 2018)

W64: Searching for long-lived particles at the LHC: Third workshop of the LHC LLP Community, CERN, Geneva (16-18 May 2018)

W63: TevPA 2017, Columbus, OH (7-11 Aug 2017)

W62: Aspen Center for Physics, 2017 Summer Session (24 Jul - 4 Aug 2017)

W61: Gordon Particle Physics Conference, HKUST, Hong Kong (25-30 June 2017)

W60: 1st workshop of LHC LLP Community, CERN, Geneva (23-26 April 2017)

W59: UMass Amherst workshop on Electroweak Phase Transition, MA (6-8 April 2017)

W58: 1st FCC Physics Workshop, CERN, Geneva (16-20 Jan 2017)

W57: HXSWG Workshop on Exotic Higgs Decays, SLAC, Palo Alto, CA (7-8 Nov 2016)

W56: MITP Workshop on “EFTs as Discovery Tools”, Mainz, Germany (5-7 Sep 2016)

W55: SEARCH 2016 Workshop, Oxford, U.K. (31 Aug - 2 Sep 2016)

W54: Multi-Boson Interaction Workshop, University of Wisconsin-Madison, WI (26. Aug 2016)

W53: CERN-Korean Theory Institute on new LHC Data, CERN, Switzerland (25 July - 5 Aug 2016)

W52: MIAPP Baryogenesis Workshop, Munich, Germany (13 - 24 Jun 2016)

W51: KITP New Accelerators Workshop, Santa Barbara, CA, (1-2 June 2016)

W50: Aspen Center for Physics, 2016 Summer Session (30 May - 10 June 2016)

W49: New Physics at the LHC Workshop, University of of Oregon, Eugene, OR (18-20 May 2016)

W48: KITP EXPERLHC16 Workshop, Santa Barbara, CA, (9-13 May 2016)

W47: “Higgs and Beyond” PITT-PACC Workshop, Pittsburgh, PA (3-5 Dec 2015)

W46: Workshop on long-lived particle searches, UMass Amherst, MA (12-14 Nov 2015)

W45: “Discoveries at the Dawn of LHC Run 2” Workshop, TRIUMF, BC (28-30 Oct 2015)

W44: Brookhaven Forum, NY (7-9 Oct 2015)

W43: GGI Workshop “Gearing up for LHC13”, Florence, Italy (7-20 Sep 2015)

W42: SUSY 15, Lake Tahoe, CA (24-29 Aug 2015)

W41: “Anticipating 14 TeV” Workshop, MIAPP, Munich, Germany (29 Jun - 12 Jul 2015)

W40: “Preparing for the HL-LHC” Workshop, Perimeter Institute, ON (8-9 Jun 2015)

W39: Higgs Cross Section WG 3 Meeting (Exotic Higgs Decays), Fermilab, IL (21-22 May 2015)

W38: 9th MC4BCM Workshop, Fermilab, IL (18-20 May 2015)

W37: CERN-CKC Theory Institute on Neutral Naturalness, CERN, Switzerland (23-26 Apr 2015)

W36: FCC Week 2015, Washington, DC (11-15 Apr 2015)

W35: Higgs & BSM at 100 TeV Workshop, CERN, Switzerland (11-13 Mar 2015)

W34: FCC Higgs/EWSB WG Meeting, CERN, Switzerland (25 Feb 2015)

W33: Aspen Center for Physics, 2015 Winter Workshop (26 Jan - 1 Feb 2015)

W32: “Next Steps in the Energy Frontier” Workshop, FNAL, IL (25-28 Aug 2014)

W31: Aspen Center for Physics, 2014 Summer Session (29 Jun - 18 Jul 2014)

W30: “New Perspectives on Dark Matter” Workshop, FNAL, IL (28 Apr - 2 May 2014)

W29: “Dark Interactions” Workshop, BNL, NY (11-13 Jun 2014)

W28: 8th MC4BCM Workshop, IBS, Daejeon, South Korea, (19-24 May 2014)

W27: “New Perspectives on Dark Matter” Workshop, FNAL, Batavia IL (28 Apr - 2 May 2014)

W26: “Natural Supersymmetry” Workshop, University of Oregon, OR (10-12 Mar 2014)

W25: “BSM Physics Opportunities at 100 TeV” Workshop, CERN, Switzerland (10-11 Feb 2013)

W24: “Exotics Physics with ATLAS at 14 TeV” Workshop, Eilat, Israel (5-9 Feb 2013)

W23: Aspen Center for Physics, 2014 Winter Workshop (18 - 24 Jan 2014)

W22: “The DM Paradigm: Current Status and Challenges” Workshop, PCTS, NJ (Oct 16 - 19 2013)

W21: SEARCH Workshop, Simons Center, Stony Brook, NY (20 - 22 Aug 2013)

W20: BOOST 2013 Workshop, Flagstaff, AZ (12-16 Aug 2013)

W19: CERN Visitor, Geneva, Switzerland (29 Jul - 11 Aug 2013)

W18: Pheno 2013 Symposium, University of Pittsburgh, PA (6 - 8 May 2013)

W17: Brookhaven Forum, NY (May 1 - 3 2013)

W16: “Higgs Physics After Discovery”, PCTS, NJ (25 - 26 Apr 2013)

W15: Snowmass Energy Frontier Meeting at BNL, Brookhaven, NY (3 - 6 Apr 2013)

W14: Applications of Jet Substructure to New Physics Searches, PI, ON (21 - 24 Feb 2013)

W13: Aspen Center for Physics, 2012 Summer Session (12 Aug - 2 Sep 2012)

W12: BOOST’12 Workshop, Valencia, Spain (23 - 27 Jul 2012)

W11: CERN BSM-TH Workshop, Geneva, Switzerland (18 - 29 Jun 2012)

W10: MC4BCM Workshop, Cornell University, NY (22 - 24 Mar 2012)

W9: SEARCH Workshop, University of Maryland, Baltimore, MD (17 - 19 Mar 2012)

W8: POwLHC Workshop, KEK, Tsukuba, Japan (16 - 18 Feb 2012)

W7: Brookhaven Forum, Brookhaven National Laboratory, NY (19 - 21 Oct 2011)

W6: SUSY 11, Fermilab, IL (28 Aug 2011 - 2 Sep 2011)

W5: Pheno 2011 Symposium, University of Wisconsin-Madison, (9-11 May 2011)

W4: SUSY 10, Physikalisches Institut, Bonn, Germany (23 - 28 Aug 2010)

W3: Pheno 2010 Symposium, University of Wisconsin-Madison, (10 - 12 May 2010)

W2: Prospects in Theoretical Physics, Institute of Advanced Study, Princeton, NJ (19 - 30 Jul 2010)

W1: Theoretical Advanced Studies Institute, University of Colorado at Boulder (1 - 26 Jun 2009)