Jesse Diaz Thaler

Curriculum Vitae (Updated September 8, 2025)

Contact Information

Jesse Thaler
MIT Center for Theoretical Physics
77 Massachusetts Avenue, 6–300
Cambridge, MA 02139

Phone: (617) 253–3713 Fax: (617) 253–8674 Email: jthaler@mit.edu Web: https://jthaler.net/

Research in Theoretical Particle Physics

• Data Science and AI/ML

• Collider Physics and QCD

• Beyond the Standard Model

Employment

January 2010-Present Massachusetts Institute of Technology

MIT Center for Theoretical Physics – a Leinweber Institute

Professor of Physics, 2021–Present

Associate Professor of Physics with Tenure, 2017–2021

Associate Professor of Physics, 2015–2017 Assistant Professor of Physics, 2010–2015

July 2009-December 2009 Lawrence Berkeley National Laboratory

Theoretical Physics Group Physicist Postdoctoral Fellow

July 2006–June 2009 University of California, Berkeley

Miller Institute for Basic Research in Science

Miller Research Fellow

Degrees

Fall 2002-Spring 2006 Harvard University

Ph.D., Physics, June 2006 A.M., Physics, June 2004

Thesis: "Symmetry Breaking at the Energy Frontier"

Advisor: Nima Arkani-Hamed

Fall 1998–Spring 2002 Brown University

Sc.B., Math/Physics, May 2002

Advisor: Antal Jevicki

Leadership

 Director, NSF Institute for Artificial Intelligence and Fundamental Interactions (IAIFI), August 2020-Present (on sabbatical August 2025-July 2026)

Visiting Positions

- Institut des Hautes Études Scientifiques (IHES), August 2025-July 2026
- Institut de Physique Théorique (IPhT), August 2025-July 2026
- Harvard Center for the Fundamental Laws of Nature, September 2018-August 2019

Affiliations

- MIT Center for Theoretical Physics a Leinweber Institute (CTP-LI), January 2010–Present
- MIT Laboratory for Nuclear Science (LNS), January 2010-Present
- MIT Statistics and Data Science Center (SDSC), January 2020–Present
- MIT Institute for Data, Systems, and Society (IDSS), January 2020–Present

Honors

- Schlumberger Chair for Mathematical Sciences, Institut des Hautes Études Scientifiques, 2025–2026
- APS Fellow, American Physical Society, 2022
- Simons Investigator in Physics, Simons Foundation, 2022–2027
- Fermilab Distinguished Scholar, Fermi National Accelerator Laboratory, 2018–2020
- Simons Fellowship in Theoretical Physics, Simons Foundation, 2018
- Frank E. Perkins Award for Excellence in Graduate Advising, MIT, 2017
- Harold E. Edgerton Faculty Achievement Award, MIT, 2016
- Buechner Faculty Award for Teaching, MIT Physics Department, 2014
- Buechner Faculty Award for Undergraduate Advising, MIT Physics Department, 2013
- Sloan Research Fellowship, Alfred P. Sloan Foundation, 2013
- Kavli Frontiers Fellow, Kavli Foundation, 2012
- Presidential Early Career Award for Scientists and Engineers, White House, 2012
- Class of 1943 Career Development Professorship, MIT, 2012–2015
- Early Career Research Award, U.S. Department of Energy, Office of Science, 2011–2016
- Miller Research Fellowship, University of California, Berkeley, 2006–2009
- Giorgio Gamberini Dissertation Prize, Scuola Normale Superiore di Pisa, 2007
- Merit Fellowship, Harvard Faculty of Arts and Sciences, 2006
- Goldhaber Prize, Harvard Physics Department, 2005
- Graduate Research Fellowship, National Science Foundation, 2002–2005

UROP Students Supervised

Undergraduate Research Opportunities Program, MIT

- Canis Li '28: *Spring 2025*
- Nipun Dour '27: Fall 2024, Spring 2025, Summer 2025
- Marshall Taylor '26: Summer 2025
- Ammar Fayad '25: Summer 2023, Summer 2024
- Max Tan '25: Spring 2023, Summer 2023 After MIT: EECS M.Eng. Candidate, MIT
- Mohit Dighamber '23: Fall 2022, Spring 2023

After MIT: EECS M.Eng., MIT

Currently: Software Engineer, Google

• Octavio Vega '22: Spring 2021, Summer 2021, Fall 2021

After MIT: Research Assistant, University of Hamburg

Currently: Physics Ph.D. Candidate, University of Illinois, Urbana-Champaign

• Nishat Protyasha '23: Summer 2020, Fall 2020, Spring 2021, Summer 2021

FUTURE of Physics Participant, Caltech, 2020

After MIT: EECS M.Eng., MIT

Currently: Research Assistant, MIT Media Lab

- Serhii Kryhin '22: Spring 2020, Summer 2020, Spring 2021, Summer 2021 (see below)
- Christopher Miller '21: Fall 2020

After MIT: Technical Instructor II, MIT

- Debaditya Pramanik '21: Spring 2020, Summer 2020, Fall 2020 (see below)
- Ziqi Zhou '20: Fall 2018

After MIT: Physics Ph.D. Candidate, Stony Brook

• Talya Klinger '20: Spring 2017

After MIT: Marshall Scholar, University of Cambridge and Cardiff University Currently: Physics Ph.D. Candidate, Caltech

- Radha Mastandrea '19: Spring 2017, Fall 2017, Spring 2018, Summer 2018 (see below)
- Eleanor Hall '18: Spring 2017, Summer 2017, Fall 2017 (see below)
- Matthew Burns '18: Fall 2014, Spring 2015
- Kevin Zhou '17: IAP 2016, Spring 2016, Summer 2016, Fall 2016, Spring 2017
 Joel Matthew Orloff Award for Outstanding Research, MIT Physics Department, 2017
 After MIT: Marshall Scholarship, U. Cambridge and U. Oxford
 Currently: Postdoctoral Researcher, UC Berkeley
- Aashish Tripathee '17: Spring 2015, Summer 2015, Fall 2015, IAP 2016, Spring 2016, Summer 2016, Fall 2016 (see below)
- Trung Phan '15: Spring 2014, Summer 2014 (see below)
- T.J. Wilkason '15: Fall 2013, Spring 2014, Summer 2014 (see below)
- Mobolaji Williams '13: Fall 2010, Spring 2011, Summer 2012 (see below)
- Dustin Katzin '12: Fall 2011, IAP 2012 (see below)
- Tucker Chan '12: Summer 2011, Fall 2011, Spring 2012 (deceased) After MIT: Physics Ph.D. Candidate, Stanford

• Ken Van Tilburg '11: Summer 2010, Fall 2010 (see below)

B.S. Student Theses Supervised

• Serhii Kryhin, B.S. 2022

Thesis: "Application of Unsupervised Machine Learning for Event Classification"

Morse/Orloff Research Award, MIT Physics Department, 2022

After MIT: Physics Ph.D. Candidate, Harvard

• Debaditya Pramanik, B.S. 2021

Thesis: "Collinear Supergravity at Linear Order"

After MIT: Physics Ph.D. Candidate, Princeton

• Radha Mastandrea, B.S. 2019

Thesis: "Analyzing CMS Open Collider Data through Topic Modeling"

Joel Matthew Orloff Award for Outstanding Service, MIT Physics Department, 2019

Physics Research Fellowship, Heising-Simons Foundation, 2018

FUTURE of Physics Participant, Caltech, 2018

After MIT: Marshall Scholarship, U. Cambridge

Currently: Schmidt AI Fellow, U. Chicago

• Eleanor Hall, B.S. 2018

Thesis: "Photon Isolation and Jet Substructure"

Joel Matthew Orloff Award for Outstanding Service, MIT Physics Department, 2017

After MIT: Physics Ph.D. Candidate, U.C. Berkeley

• Aashish Tripathee, B.S. 2017

Thesis: "Jet Substructure at the Large Hadron Collider"

Philip Morse Memorial Award, MIT Physics Department, 2017

After MIT: Physics Ph.D., U. Michigan

Currently: Postdoctoral Researcher, U. Michigan

• Trung Phan, B.S. 2015

Thesis: "Relativistic Quantum Fields in Theoretical Physics"

After MIT: Physics Ph.D., Princeton

Currently: Assistant Professor, Claremont Colleges

• T.J. Wilkason, B.S. 2015

Thesis: "Exclusive Cone Jet Algorithms for High Energy Particle Colliders"

Joel Matthew Orloff Award for Outstanding Service, MIT Physics Department, 2015

After MIT: Physics Ph.D., Stanford

Currently: Senior Quantum Engineer, Atom Computing

• Mobolaji Williams, B.S. 2013

Thesis: "Pseudo-Goldstino to Gravitino Decay: An Implication of Multiple Supersymmetry Breaking"

After MIT: Physics Ph.D., Harvard

Currently: Data Scientist, Jellyfish

• Dustin Katzin, B.S. 2012

Thesis: "The DarkLight Experiment: Searching for the Dark Photon"

After MIT: Part III, University of Cambridge

Currently: Software Engineering Team Lead, Bloomberg

• Lin Fei, B.S. 2011

Thesis: "Dark Matter Dynamics in the Early Universe"

After MIT: Physics Ph.D., Princeton

• Ken Van Tilburg, B.S. 2011

Thesis: "Identifying Boosted Objects with N-subjettiness and Linear k-means Clustering"

Apker Award Finalist, American Physical Society, 2011

Joel Matthew Orloff Award for Outstanding Research in Physics, MIT Physics Department, 2011

After MIT: Physics Ph.D., Stanford Currently: Assistant Professor, NYU

M.Eng. Student Theses Supervised

• Raymond Wynne, M.Eng. 2023

Thesis: "Anomaly Detection in Collider Physics via Factorized Observables"

After MIT: Physics Ph.D. Candidate, Caltech

• Nilai Sarda, M.Eng. 2020

Thesis: "On Anomaly Detection in Particle Accelerators" (jointly advised with Justin Solomon)

Johnson Artificial Intelligence and Decision Making Thesis Award, MIT EECS Department, 2020

After MIT: Researcher, D.E. Shaw Group

Currently: Algorithm Developer, Hudson River Trading

• Preksha Naik, M.Eng. 2019

Thesis: "Exploring the Space of Jets with CMS Open Data"

After MIT: Physics Ph.D. Candidate, Caltech

Ph.D. Students Supervised

- Gregorio de la Fuente Simarro, anticipated Ph.D. 2028
- Pamela Pajarillo, anticipated Ph.D. 2028
- Sean Benevedes, anticipated Ph.D. 2026
- Rikab Gambhir, Ph.D. 2025

Thesis: "Metrics, Muons, Moments, Models, Machine Learning, Measurements, and More: A Manifesto on Collider Physics"

MIT Prize for Open Data (Honorable Mention), MIT Libraries and School of Science, 2022

After MIT: Postdoctoral Researcher, U. Cincinnati

• Samuel Alipour-fard, Ph.D. 2025

Thesis: "Particles Inside Particles: The Flow of Energy in Quarks, Gluons, and Jets"

• Patrick Komiske, Ph.D. 2021

Thesis: "Machine Learning for High-Energy Collider Physics"

After MIT: Researcher, PDT Partners

Currently: Research Scientist, River Run Trading

• Eric Metodiev, Ph.D. 2020

Thesis: "Energy Flow in Particle Collisions"

After MIT: Research Scientist, Renaissance Technologies

• Benjamin Elder, Ph.D. 2018

Thesis: "Jet Fragmentation at the LHC"

After MIT: Cognitive Software Developer, IBM

Currently: Research Scientist, IBM

• Lina Necib, Ph.D. 2017

Thesis: "Boosting (In)direct Detection of Dark Matter"

Vazquez Award for Outstanding Research, MIT Physics Department, 2016

After MIT: Fairchild Postdoctoral Scholar, Caltech

Currently: Assistant Professor, MIT

• Yonatan Kahn, Ph.D. 2015

Thesis: "Forces and Gauge Groups Beyond the Standard Model"

Andrew M. Lockett III Memorial Fund Award, MIT Physics Department, 2014

J.J. and Noriko Sakurai Dissertation Award, American Physical Society, 2016

After MIT: Postdoctoral Researcher, Princeton

Currently: Assistant Professor, U. Toronto

• Daniele Bertolini, Ph.D. 2014

Thesis: "Electroweak Symmetry Breaking in the Era of the Higgs Boson Discovery"

LHC-TI Graduate Fellowship, LHC Theory Initiative, 2013

After MIT: Postdoctoral Researcher, U.C. Berkeley

Currently: Machine Learning Scientist, Unlearn

• Zoe Thomas, Ph.D. 2014

Thesis: "Supersymmetry at the Dawn of the LHC Era"

After MIT: Postdoctoral Researcher, U. Minnesota

Currently: Applied Research Mathematician, Department of Defense

• Francesco D'Eramo, Ph.D. 2012

Thesis: "Hot and Dark Matter" (jointly advised with Krishna Rajagopal and Hong Liu)

Vazquez Award for Outstanding Research, MIT Physics Department, 2011

After MIT: Miller Research Fellow, U.C. Berkeley

Currently: Associate Professor, U. Padova

Postdoctoral Researchers Supervised

- So Chigusa, CTP Postdoctoral Researcher, Fall 2024–Spring 2027
- Kyle Lee, CTP Postdoctoral Researcher, Fall 2022–Spring 2025

After MIT: Postdoctoral Researcher, Yale

• Cari Cesarotti, CTP Postdoctoral Researcher, Fall 2022–Spring 2025

J.J. and Noriko Sakurai Dissertation Award, American Physical Society, 2023

Science 30 Under 30, Forbes, 2024

Leona Woods Distinguished Postdoctoral Lectureship, Brookhaven National Laboratory, 2024

After MIT: Postdoctoral Researcher, CERN

• Sokratis Trifinopoulos, SNSF Postdoc. Mobility Fellow, Fall 2022–Spring 2024

CTP Postdoctoral Researcher, Spring 2024–Spring 2025

After MIT: SNSF Postdoc. Mobility Return Grantee, CERN

• Siddharth Mishra-Sharma, IAIFI Fellow, Fall 2021-Spring 2024

After MIT: Member of Technical Staff, Anthropic

Currently: Assistant Professor, Boston U.

- Lena Funcke, CTP Postdoctoral Researcher, Fall 2021–Fall 2022 After MIT: Assistant Professor, U. Bonn
- Katelin Schutz, Pappalardo Fellow, Fall 2019–Fall 2020
 NASA Einstein Fellow, Spring 2021
 After MIT: Assistant Professor, Canada Research Chair, McGill
- Pouya Asadi, CTP Postdoctoral Researcher, Fall 2019–Spring 2022 After MIT: Postdoctoral Researcher, U. Oregon
- Bernhard Mistlberger, Pappalardo Fellow, Fall 2018–Spring 2020
 After MIT: Associate Staff Scientist, SLAC
 Currently: Staff Scientist, SLAC
- Frédéric Dreyer, Early Postdoc.Mobility Fellow, Fall 2016–Spring 2018
 After MIT: Postdoctoral Researcher, Oxford
 Currently: Senior Machine Learning Scientist, Prescient Design
- Yotam Soreq, Rothschild Fellow, Fall 2015–Spring 2018
 After MIT: Postdoctoral Researcher, CERN
 Currently: Associate Professor, Technion
- Benjamin Safdi, Pappalardo Fellow, Fall 2014-Spring 2017
 After MIT: Assistant Professor, U. Michigan
 Currently: Associate Professor, U.C. Berkeley
- Wei Xue, CTP Postdoctoral Researcher, Fall 2014–Spring 2017
 After MIT: Postdoctoral Fellow, CERN
 Currently: Assistant Professor, U. Florida
- Simone Marzani, LHC Theory Initiative Postdoctoral Fellow, Fall 2014-Spring 2015
 After MIT: Assistant Professor, U. Buffalo
 Currently: Associate Professor, U. Genova
- Gilly Elor, CTP Postdoctoral Researcher, Fall 2013–Spring 2016 After MIT: Postdoctoral Researcher, U. Oregon Currently: Research Fellow, UT Austin
- Duff Neill, Pappalardo Fellow, Fall 2012–Spring 2015
 CTP Postdoctoral Researcher, Spring 2015–Spring 2016
 After MIT: Director's Fellow, Los Alamos National Laboratory
 Currently: Staff Scientist, Los Alamos National Laboratory
- Andrew Larkoski, CTP Postdoctoral Researcher, Fall 2012–Spring 2015
 Wu-Ki Tung Award for Early Career Research on QCD, CTEQ Collaboration, 2017
 After MIT: LHC Theoretical Initiative Postdoctoral Fellow, Harvard
 Currently: Associate Editor, Physical Review D
- Matthew McCullough, Simons Postdoctoral Fellow, Fall 2011–Spring 2014
 After MIT: COFUND Fellowship, CERN
 Currently: Staff Scientist, CERN
- Keith Rehermann, CTP Postdoctoral Researcher, Fall 2010–Spring 2012 After MIT: Consultant, Ab Initio Software Corporation Currently: Software Engineer, Chainlink Labs

Visitors Hosted

• Anne Galda, Fulbright Scholarship, Spring 2025

Project: "Unveiling the Discovery Potential for ALPs using Machine Learning" Home Institution: Johannes Gutenberg University

• Nathaniel Santiago, MIT Summer Research Program, Summer 2024

Project: "Graph Neural Network Particle Reconstruction for DUNE's Prototype Near Detector" Home Institution: Northeastern Illinois U.

• Yiding Song, Research Science Institute, Summer 2023

Project: "Towards an Understanding of Scientific Data with Multimodal Language Models" Home Institution: *Harrow School*

• Edward Gu, Research Internship, Summer 2023

Home Institution: Cornell

• Xinyue (Stella) Wu, MIT Summer Research Program, Summer 2023

Project: "Measuring the Size of Quark and Gluon Jets in CMS Open Data"

Home Institution: U. Rochester

• Brian Nord, MIT MLK Visiting Professor, Fall 2022–Spring 2023

Home Institution: Fermilab and U. Chicago

• Kaća Bradonjić, Visiting Artist, Fall 2022

Home Institution: Hampshire College

• Sergio Diaz, MIT Summer Research Program, Summer 2022

Project: "Determination of the W Mass Parameter using Machine Learning"

Home Institution: U. Maryland, Baltimore County

• Pedro Rivera-Cardona, MIT Summer Research Program, Summer 2021

Project: "Implementation of U(1) Group Symmetry on Energy Flow Networks" Home Institution: U. Puerto Rico, Mayaquez

• Athis Osathapan, Research Internship, Spring 2021, Summer 2021, Summer 2022 Home Institution: Bowdoin College

• Shira Jackson, MIT Summer Research Program, Summer 2020

Project: "Estimating the Energy Mover's Distance with Exclusive Jet Clustering" Home Institution: U. Cincinnati

 $\bullet\,$ Andrew Turner, Tushar Shah and Sara Zion Physics Fellowship, 2018–2019

Home Institution: MIT (Washington Taylor)

• Maximilian Henderson, International Research Opportunities Programme, Summer 2018
Home Institution: Imperial College London

• Edward Hirst, International Research Opportunities Programme, Summer 2018

Home Institution: Imperial College London

• Rahim Leung, International Research Opportunities Programme, Summer 2017 Home Institution: Imperial College London

• Markus Schulze, Visiting Postdoc, Fall 2015

Home Institution: CERN

• Alexis Romero, MIT Summer Research Program, Summer 2015

Project: "Jet Physics Measurements on CMS Open Data"

Home Institution: San Diego State University

• Nayara Fonseca, FAPESP Fellowship, Spring 2014–Fall 2014 Home Institution: U. Sao Paulo, Brazil (Gustavo Burdman)

Teaching Experience

• 8.831 — Supersymmetric Quantum Field Theories Lecture: *Spring 2017, Fall 2019, Fall 2024*

 $\bullet~8.398$ — Selected Topics in Graduate Physics

Instructor: Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024

• 8.03 — Physics III, Waves and Vibrations

Recitation: Fall 2020

• 8.044 — Statistical Physics I

Recitation: Spring 2020

• 8.05 — Quantum Mechanics II

Instructor (MITx-based 8.051): Spring 2018

Recitation: Fall 2010, Fall 2012

• 8.033 — Relativity

Lecture: Fall 2017 Recitation: Fall 2016

• 8.02 — Physics II, Electricity and Magnetism

TEAL (studio class): Spring 2014, Spring 2015, Spring 2016

• 8.012 — Physics I, Classical Mechanics

Recitation: Fall 2014

• 8.06 — Quantum Mechanics III

Lecture: Spring 2011, Spring 2012, Spring 2013

Recitation: Spring 2010

Advising

- MIT Physics Ph.D. Thesis Committees:
 - Noah Paladino (Philip Harris, in progress)
 - Jessica Fry (Lindley Winslow, in progress)
 - Ziming Liu (Max Tegmark, July 2025)
 - Enrique Toloza (Mark Harnett & Mehran Kardar, February 2025)
 - o Ouail Kitouni (Mike Williams, August 2024)
 - Stella Schindler (Iain Stewart, August 2024)
 - o Evgenii Kniazev (Vladan Vuletic, June 2024)
 - Yitian Sun (Tracy Slatyer, April 2024)
 - Cristian Zanoci (Mikhail Lukin & Aram W. Harrow, May 2023)
 - Eva Huang (Salvatore Vitale, January 2023)
 - Gregory Ridgway (Tracy Slatyer, June 2022)
 - Patrick Fitzpatrick (Tracy Slatyer & David Kaiser, July 2021)
 - o Joseph Johnston (Lindley Winslow & Joseph Formaggio, May 2021)
 - Chih-Liang Wu (Tracy Slatyer, April 2021)

- Constantin Weisser (Mike Williams, March 2021)
- J. Owen Andrews (Ibrahim Cisse, November 2020)
- Gherardo Vita (Iain Stewart, August 2020)
- o Jasmine Brewer (Krishna Rajagopal, July 2020)
- Hongwan Liu (Tracy Slatyer, May 2019)
- Charles Epstein (Richard Milner, August 2018)
- Nicholas Rodd (Tracy Slatyer, April 2018)
- o David Hernandez (Edmund Bertschinger, April 2018)
- Aram Apyan (Markus Klute, November 2016)
- o Daniel Roberts (Allan Adams, April 2016)
- o Ian Moult (Iain Stewart, April 2016)
- o Daniel Kolodrubetz (Iain Stewart, April 2016)
- Mingming Yang (Christoph Paus, January 2015)
- Shawn Henderson (Peter Fisher, July 2013)
- o Teng Ma (Boleslaw Wyslouch, May 2013)
- Kevin Sung (Steven Nahn, March 2013)
- Christopher Jones (Janet Conrad, June 2012)
- Riccardo Abbate (Iain Stewart, May 2012)
- o Abolhassan Vaezi (Xiao-Gang Wen, January 2011)
- o Georgia Karagiorgi (Janet Conrad, July 2010)
- MIT Physics Graduate Academic Advisor, Fall 2017–Present
 - o Anticipated Ph.D. 2029: Aneca Sun, Adam Wills
 - o Anticipated Ph.D. 2027: Alexander Schmidhuber, Manu Srivastava, Rachel Steinhorst
 - o Anticipated Ph.D. 2025: Ryan Abbott
 - o Ph.D. 2024: Bruno Scheihing Hitschfeld, Stella Schindler, Annie Wei
 - o Ph.D. 2023: Eric Anschuetz
 - o Ph.D. 2022: Gregory Ridgway, Samuel Leutheusser
 - o Ph.D. 2020: Jasmine Brewer
- MIT Physics Undergraduate Academic Advisor, Fall 2011-Present
 - Class of 2024/2025: Omar Abdelghani, Nishant Dhankar, Chirag Falor, Gosha Geogdzhayeva, Lily Moseni, Dylan Raphael, David Suarez, Chris Viets
 - Class of 2018/2019/2020: Robert Arnott, Zachary Bogorad, Hannah Field, Rodmy Paredes Alfaro, Saranesh Prembabu, Joshua Rhodes, Kevin Tang, Michael Winer
 - Class of 2014/2015: Allison Christian, Jay Lawhorn, Joseph Perricone, Jeffrey Prouty, Melih Ucer,
 Pranjal Vachaspati, Prashanth Venkataram
- MIT First-Year Advisor, Fall 2019–Spring 2020
 - o Class of 2023: Richter Brzeski, Megha Maran, Catalina Monsalve Rodriguez, Dylan Weber
- External Ph.D. Examiner:
 - o Pim de Haan (Max Welling & Taco Cohen, U. Amsterdam, May 2025)
 - Pedro Cal (Wouter Waalewijn, U. Amsterdam, September 2021)
 - Thea Aarrestad (Ben Kilminster, U. Zurich, March 2019)
 - o Ignacio Garcia Garcia (Eduardo Ros & Marcel Vos, U. Valencia, December 2016)
 - Brian Walsh (Tobias Golling, Yale, February 2013)
 - Travis Martin (Thomas Gregoire & Stephen Godfrey, Carleton U., August 2012)
- External Mentoring:
 - o Ilias Cholis, PI Academy for Research and Engagement, Fall 2018–Fall 2019

Internal Service

- MIT Faculty
 - MIT Rapid Response Task Force on Large Scale Proposal Development, Summer 2024
 - o MIT Faculty Committee on Curricula, Fall 2017-Spring 2020
- MIT Physics
 - o MIT Physics Major Design Committee, Chair: Spring 2025
 - MIT Physics Council, Member at Large, Fall 2024–Spring 2025
 - o MIT Physics Ad Hoc Committee on Graduate Student Professional Development, Spring 2023
 - o MIT Physics Graduate Admissions Committee, Spring 2021, Spring 2024, Spring 2025
 - o MIT Physics Communic.8 Faculty Liaison, Fall 2020-Fall 2023
 - o MIT Physics Promotion Committee, Fall 2019; Chair: Fall 2020, Fall 2021, Fall 2022
 - o MIT Physics Pappalardo Fellowships Executive Committee, Fall 2016, Fall 2017
 - o MIT Physics Colloquium Committee, Spring 2010–Spring 2012; Chair: Fall 2012–Spring 2014
 - o MIT Physics Part II Qualifying Written Exam Committee, Spring 2012–Spring 2013; Chair: Fall 2013–Spring 2014
 - o MIT Physics Part II Qualifying Written Exam Grading Committee, September 2010, January 2020
- MIT Laboratory for Nuclear Science (LNS)
 - o MIT LNS Advisory Group, Fall 2017, Spring 2020-Spring 2024
 - o MIT LNS Colloquium Committee, Fall 2015-Spring 2017; Chair: Fall 2017-Spring 2018
- MIT Center for Theoretical Physics a Leinweber Institute (CTP-LI)
 - o MIT CTP Part III Oral Qualifying Exam Committee, Spring 2015–Spring 2017, Fall 2022–Spring 2023
 - MIT CTP Faculty Mentor, Spring 2021-Present
 - o MIT CTP Faculty Search Committee, Fall 2017, Fall 2021, Fall 2023; Chair: Fall 2019
 - MIT CTP Deputy Group Leader in High-Energy Physics, Spring 2020-Present
 - o MIT CTP Visitor Coordinator, Fall 2016-Summer 2025
 - o MIT CTP Nuclear/Particle Seminar Committee, Fall 2010–Fall 2016, Fall 2020–Spring 2021, Fall 2022–Spring 2025
 - MIT CTP Postdoc Selection Committee, Fall 2009–Present
- MIT Schwarzman College of Computing (SCC)
 - o MIT GenAI Consortium (MGAIC) Grant Review, Spring 2025
 - MIT SCC Tayebati Postdoctoral Fellowship Selection, Spring 2025
- MIT Statistics and Data Science Center (SDSC)
 - o MIT Physics, Statistics, and Data Science (PhysSDS) Committee, Co-Chair: Fall 2020-Present
- MIT Social and Ethical Responsibilities of Computing (SERC)
 - MIT SERC Seed Grant Selection Committee, Spring 2024
- MIT Electrical Engineering and Computer Science (EECS)
 - o MIT EECS Junior Faculty Mentoring Committee, Spring 2024-Present

External Service

- Aspen Center for Physics (ACP)
 - o General Member, Summer 2020-Summer 2030
 - o Public Lectures Committee, Chair: Summer 2025
 - Admissions Committee, Summer 2024
 - o Nominations Committee, Summer 2021; Chair: Summer 2022; Ex officio: Summer 2023
 - o Summer Program Committee, Summer 2020
 - o Conference Liaison, "Theoretical Physics for Machine Learning", Winter 2023
 - Workshop Organizer, "Interplay of Fundamental Physics and Machine Learning", Summer 2022
 - Workshop Organizer, "The LHC Awakens: A New Energy Frontier", Summer 2016
 - o Workshop Organizer, "Year One of the LHC", Summer 2011
 - o Conference Organizer, "New Data from the Energy Frontier", Winter 2011
- American Physical Society (APS)
 - Fellow, 2022–Present
 - Sakurai Dissertation Award Selection Committee, Fall 2016; Vice Chair: Fall 2022; Chair: Fall 2023
 - Member, 2002–Present
- High Energy Physics Advisory Panel (HEPAP)
 - Particle Physics Project Prioritization Panel (P5), December 2022–December 2023
 - o HEPAP Member (Second Term), April 2024-March 2027
 - o HEPAP Member, August 2021-March 2024
 - HEPAP Presentation, "The NSF AI Institute for Artificial Intelligence and Fundamental Interactions", December 2020
 - HEPAP Presentation, "The High Energy Physics Landscape in 2019", May 2019
- Early Career and Strategic Planning Events
 - Organizer, "NSF Workshop on the Future of AI and the Mathematical and Physical Sciences", MIT, March 2025
 - Summer School Organizer, "TASI 2024: The Frontiers of Particle Theory", CU Boulder, June 2024
 - o Topical Convener, "Collider Phenomenology", Snowmass Theory Frontier, July 2021, July 2022
 - o Local Organizing Committee, "Rising Stars in Physics", MIT, April 2018
- Machine Learning for Jet Physics (ML4Jets)
 - o Advisory Committee, "ML4Jets 2025", Caltech, August 2025
 - o Advisory Committee, "ML4Jets 2024", LPNHE, Paris, November 2024
 - Advisory Committee, "ML4Jets 2023", DESY, November 2023
 - o Advisory Committee, "ML4Jets 2022", Rutgers, November 2022
 - o Advisory Committee, "ML4Jets 2021", Heidelberg, July 2021
 - o Advisory Committee, "ML4Jets 2020", New York, January 2020
- Statistics, Data Science, and Machine Learning Events
 - o Scientific Committee, "PHYSTAT: Statistics Meets Machine Learning", Imperial College London, September 2024
 - o Organizer, "Machine Learning at GGI", Galileo Galilei Institute, August/September 2022
 - o Organizer, "CMS Open Data for Theorists", Fermilab/Virtual, September 2020
 - o Advisory Committee, "Machine Learning for Particle Physics", Mainz, May 2020 \rightarrow June 2021

- International Workshop on Boosted Object Phenomenology (BOOST)
 - o Advisory Committee and Ombuds Team (with Ayana Arce), "Boost 2022", Hamburg, August 2022
 - o Advisory Committee and Ombuds Team (with Ayana Arce), "Boost 2021", Online, August 2021
 - o Advisory Committee and Ombuds Team (with Ayana Arce), "Boost 2020", Hamburg, July 2020
 - o Local Organizing Committee, "Boost 2019", MIT, July 2019
 - o Advisory Committee, "Boost 2018", Paris, July 2018
 - o Advisory Committee, "Boost 2017", Buffalo, July 2017
 - o Advisory Committee, "Boost 2016", Zurich, July 2016
 - o Advisory Committee, "Boost 2015", Chicago, August 2015
 - o Advisory Committee, "Boost 2014", London, August 2014
 - o Advisory Committee, "Boost 2013", Flagstaff, August 2013
 - o Advisory Committee, "Boost 2012", Valencia, July 2012
 - o Advisory Committee, "Boost 2010", Oxford U., June 2010

• QCD and Jet Physics Events

- o Jet Convener, "Physics at TeV Colliders", Les Houches, June 2017
- o Jet Convener, "Physics at TeV Colliders", Les Houches, June 2015
- o Organizer, "Boston Jet Physics", Harvard/MIT, January 2014
- o Organizer, "Boston Jet Physics", Harvard/MIT, January 2011

• Collider and BSM Physics Events

- o Advisory Committee, "BLV 2017", Cleveland, May 2017
- o Scientific Organizing Committee, "Lattice for BSM Physics 2017", Boston, April 2017
- o Organizer, "Gearing up for LHC13", Galileo Galilei Institute, Fall 2015
- Conference Program Committee, "PANIC 2011: Particle and Nuclei International Conference", Boston, July 2011
- o Organizer, "Implications of First LHC Data", MIT/Berkeley, August 2010

• Advisory Boards

- Visiting Committee Co-Chair, Division of Physics, Mathematics and Astronomy, Caltech, March 2025
- Selection Committee, Margot and Tom Pritzker Prize for AI in Science Research Excellence, Pritzker Foundation, 2024
- International Scientific Advisory Board, AI for Science and Science for AI (AISSAI) Center, French CNRS, 2022–Present
- o International Advisory Committee, Machine Learning Physics, JSPS/MEXT Grant-in-Aid for Transformative Research Areas, 2022–2026
- o Science Advisory Board, USQCD Collaboration, Spring 2013–Fall 2016
- o Fellowship Selection Committee, LHC Theory Initiative, Fall 2013-Fall 2014; Chair: Fall 2014

• Journal Editing

- o Editorial Board, Journal of High Energy Physics, Fall 2019–Summer 2025
- Editorial College, SciPost Physics, Fall 2019-Spring 2024
- Co-Topic Editor, "Efficient AI in Particle Physics and Astrophysics", Frontiers in Artificial Intelligence, Spring 2022

• Peer Review

Physical Review Letters; Journal of High Energy Physics; Physical Review D; SciPost Physics; Neural Information Processing Systems; Machine Learning: Science and Technology;

Journal of Cosmology and Astroparticle Physics; Physics of the Dark Universe; Nuclear Physics B; Physics Letters B; European Physical Journal C; Journal of Physics G; Physics Reports; Annals of Physics; Reviews of Modern Physics; Particle Data Group

• Funding Agency Review

U.S. Department of Energy (DOE); National Science Foundation (NSF);
European Research Council (ERC); Heising-Simons Foundation;
Research Corporation for Science Advancement (Cottrell); The Royal Society; Helmholtz Association;
Swiss National Science Foundation; Natural Sciences & Engineering Research Council of Canada;
Israel Science Foundation; Pazy Foundation; Netherlands Organisation for Scientific Research;
German Academic Exchange Service (DAAD); French National Research Agency;
Hungarian National Research, Development & Innovation Office

Public Engagement

- Artificial Intelligence Advocacy
 - "Transcript of Physics, AI, and the Future of Discovery" (with France Córdova, Walter Copan, Valerie Browning, and Evgeni Gousev), Physics Today 77(11):30 (2024)
 - "Institute for Artificial Intelligence and Fundamental Interactions (IAIFI): Infusing physics intelligence into artificial intelligence" (with Mike Williams and Marisa LaFleur), AI Magazine, February 2024
 - "Deep Learning + Deep Thinking = Deeper Understanding" (with Mike Williams), *Physics@MIT Journal*, Fall 2023
 - "Expanding the Space of Machine Learning for Physics", APS Topical Group on Data Science Newsletter, Winter 2023
 - o "Designing an AI Physicist", Opinion Viewpoint, CERN Courier, September 2021
- Open Data Advocacy
 - o "Slow and Steady" (with Matthew Strassler), Correspondence, Nature Physics 15:725 (2019)
 - "Guest Case Study 6: Particle Collisions" (with Felice Frankel), Picturing Science and Engineering, MIT Press, 2018
 - "The Future of Particle Physics is 'Open", Guest Blog Post, The Cylindrical Onion, CMS Experiment, December 2017

Publications and Preprints

See http://www.jthaler.net/research for these publications organized by topic. Following the convention in particle physics, all authors are listed alphabetically, except those indicated by §.

- * = Paper arising from a supervised Ph.D. thesis
- [†] = Paper arising from a supervised B.S. or M.Eng. thesis
- $\S = \text{Authors ordered by contribution}$
- [138] * Sean Benevedes and Jesse Thaler, Frequentist Uncertainties on Neural Density Ratios with WiFi Ensembles [arXiv:2506.00113].
- [137] * Rikab Gambhir, Radha Mastandrea, Benjamin Nachman, Jesse Thaler, *Isolating Unisolated Upsilons with Anomaly Detection in CMS Open Data*, Phys. Rev. Lett. 135:021902 (2025) [arXiv:2502.14036].

- [136] Benoît Assi, Stefan Höche, Kyle Lee, and Jesse Thaler, QCD Theory meets Information Theory [arXiv:2501.17219].
- [135] Johann Brehmer, Víctor Bresó, Pim de Haan, Tilman Plehn, Huilin Qu, Jonas Spinner, and Jesse Thaler, A Lorentz-Equivariant Transformer for All of the LHC [arXiv:2411.00446].
- [134] Jesse Thaler and Sokratis Trifinopoulos, Flavor Patterns of Fundamental Particles from Quantum Entanglement?, Phys. Rev. D111:056021 (2025) [arXiv:2410.23343].
- [133] * Samuel Alipour-fard, Ankita Budhraja, Jesse Thaler, and Wouter J. Waalewijn, New Angles on Energy Correlators, Phys. Rev. Lett. 134:231902 (2025) [arXiv:2410.16368].
- [132] * Rikab Gambhir, Andrew J. Larkoski, and Jesse Thaler, SPECTER: Efficient Evaluation of the Spectral EMD, JHEP 2412:219 (2024) [arXiv:2410.05379].
- [131] Krish Desai, Benjamin Nachman, and Jesse Thaler, Moment Unfolding, Phys. Rev. D110:116013 (2024) [arXiv:2407.11284].
- [130] § Jonas Spinner, Victor Bresó, Pim de Haan, Tilman Plehn, Jesse Thaler, and Johann Brehmer, Lorentz-Equivariant Geometric Algebra Transformers for High-Energy Physics, NeurIPS 2024 [arXiv:2405.14806].
- [129] * Rikab Gambhir, Athis Osathapan, and Jesse Thaler, Moments of Clarity: Streamlining Latent Spaces in Machine Learning using Moment Pooling, Phys. Rev. D110:074020 (2024) [arXiv:2403.08854].
- [128] § Siddharth Mishra-Sharma, Yiding Song, and Jesse Thaler, *PAPERCLIP: Associating Astronomical Observations and Natural Language with Multi-Modal Models*, Conf. Lang. Mod. 2024 [arXiv:2403.08851].
- [127] † Eric M. Metodiev, Jesse Thaler, and Raymond Wynne, Anomaly Detection in Collider Physics via Factorized Observables, Phys. Rev. D110:055012 (2024) [arXiv:2312.00119].
- [126] Samuel Bright-Thonney, Benjamin Nachman, and Jesse Thaler, Safe but Incalculable: Energy-Weighting is Not All You Need, Phys. Rev. D110:014029 (2024) [arXiv:2311.07652].
- [125] Fabrizio Caola, Radosław Grabarczyk, Maxwell L. Hutt, Gavin P. Salam, Ludovic Scyboz, and Jesse Thaler, Flavoured Jets with Exact Anti-kt Kinematics and Tests of Infrared and Collinear Safety, Phys. Rev. D108:094010 (2023) [arXiv:2306.07314].
- [124] Andrew J. Larkoski and Jesse Thaler, A Spectral Metric for Collider Geometry, JHEP 2308:107 (2023) [arXiv:2305.03751].
- [123] * Samuel Alipour-fard, Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, *Pileup and Infrared Radiation Annihilation (PIRANHA): A Paradigm for Continuous Jet Grooming*, JHEP 2309:157 (2023) [arXiv:2305.00989].
- [122] * Demba Ba, Akshunna S. Dogra, Rikab Gambhir, Abiy Tasissa, and Jesse Thaler, SHAPER: Can You Hear the Shape of a Jet?, JHEP 2306:195 (2023) [arXiv:2302.12266].
- [121] Erik Buhmann, Gregor Kasieczka, and Jesse Thaler, *EPiC-GAN: Equivariant Point Cloud Generation for Particle Jets*, SciPost Phys. 15:130 (2023) [arXiv:2301.08128].

- [120] Peter Onyisi, Delon Shen, and Jesse Thaler, Comparing Point Cloud Strategies for Collider Event Classification, Phys. Rev. D108:012001 (2023) [arXiv:2212.10659].
- [119] † Eric R. Anschuetz, Lena Funcke, Patrick T. Komiske, Serhii Kryhin, and Jesse Thaler, Degeneracy Engineering for Classical and Quantum Annealing: A Case Study of Sparse Linear Regression in Collider Physics, Phys. Rev. D106:056008 (2022) [arXiv:2205.10375].
- [118] Pedro Cal, Jesse Thaler, and Wouter J. Waalewijn, *Power Counting Energy Flow Polynomials*, JHEP 2209:021 (2022) [arXiv:2205.06818].
- [117] * Rikab Gambhir, Benjamin Nachman, and Jesse Thaler, Bias and Priors in Machine Learning Calibrations for High Energy Physics, Phys. Rev. D106:036011 (2022) [arXiv:2205.05084].
- [116] † Patrick T. Komiske, Serhii Kryhin, and Jesse Thaler, Disentangling Quarks and Gluons with CMS Open Data, Phys. Rev. D106:094021 (2022) [arXiv:2205.04459].
- [115] * Rikab Gambhir, Benjamin Nachman, and Jesse Thaler, Learning Uncertainties the Frequentist Way: Calibration and Correlation in High Energy Physics, Phys. Rev. Lett. 129:082001 (2022) [arXiv:2205.03413].
- [114] Hao Chen, Ian Moult, Jesse Thaler, and Hua Xing Zhu, Non-Gaussianities in Collider Energy Flux, JHEP 2207:146 (2022) [arXiv:2205.02857].
- [113] Andrea Delgado and Jesse Thaler, Quantum Annealing for Jet Clustering with Thrust, Phys. Rev. D106:094016 (2022) [arXiv:2205.02814].
- [112] Patrick T. Komiske, Ian Moult, Jesse Thaler, and Hua Xing Zhu, Analyzing N-point Energy Correlators Inside Jets with CMS Open Data, Phys. Rev. Lett. 130:051901 (2023) [arXiv:2201.07800].
- [111] Krish Desai, Benjamin Nachman, and Jesse Thaler, Symmetry GAN: Symmetry Discovery with Deep Learning, Phys. Rev. D105:096031 (2022) [arXiv:2112.05722].
- [110] Benjamin Nachman and Jesse Thaler, Neural Conditional Reweighting, Phys. Rev. D105:076015 (2022) [arXiv:2107.08979].
- [109] Benjamin Nachman and Jesse Thaler, E Pluribus Unum Ex Machina: Learning from Many Collider Events at Once, Phys. Rev. D103:116013 (2021) [arXiv:2101.07263].
- [108] Taylor Faucett, Jesse Thaler, and Daniel Whiteson, Mapping Machine-Learned Physics into a Human-Readable Space, Phys. Rev. D103:036020 (2021) [arXiv:2010.11998].
- [107] Jasmine Brewer, Jesse Thaler, and Andrew P. Turner, Data-Driven Quark and Gluon Jet Modification in Heavy-Ion Collisions, Phys. Rev. C103:L021901 (2021) [arXiv:2008.08596].
- [106] Benjamin Nachman and Jesse Thaler, Neural Resampler for Monte Carlo Reweighting with Preserved Uncertainties, Phys. Rev. D102.076004 (2020) [arXiv:2007.11586].
- [105] Cari Cesarotti and Jesse Thaler, A Robust Measure of Event Isotropy at Colliders, JHEP 2008:084 (2020) [arXiv:2004.06125].
- [104] * Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, *The Hidden Geometry of Particle Collisions*, JHEP 2007:006 (2020) [arXiv:2004.04159].

- [103] * Anders Andreassen, Patrick T. Komiske, Eric M. Metodiev, Benjamin Nachman, and Jesse Thaler, OmniFold: A Method to Simultaneously Unfold All Observables, Phys. Rev. Lett. 124:182001 (2020) [arXiv:1911.09107].
- [102] * Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, Cutting Multiparticle Correlators Down to Size, Phys. Rev. D101:036019 (2020) [arXiv:1911.04491].
- [101] Timothy Cohen, Gilly Elor, Andrew J. Larkoski, and Jesse Thaler, *Circumnavigating Collinear Superspace*, JHEP 2002:156 (2020) [arXiv:1909.00009].
- [100] § Annie Y. Wei, Preksha Naik, Aram W. Harrow, and Jesse Thaler, Quantum Algorithms for Jet Clustering, Phys. Rev. D101:094015 (2020) [arXiv:1908.08949].
- [99] *† Patrick T. Komiske, Radha Mastandrea, Eric M. Metodiev, Preksha Naik, and Jesse Thaler, Exploring the Space of Jets with CMS Open Data, Phys. Rev. D101:034009 (2020) [arXiv:1908.08542].
- [98] Cari Cesarotti, Yotam Soreq, Matthew J. Strassler, Jesse Thaler, and Wei Xue, Searching in CMS Open Data for Dimuon Resonances with Substantial Transverse Momentum, Phys. Rev. D100:015021 (2019) [arXiv:1902.04222].
- [97] * Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, *The Metric Space of Collider Events*, Phys. Rev. Lett. 123:041801 (2019) [arXiv:1902.02346].
- [96] Jasmine Brewer, José Guilherme Milhano, and Jesse Thaler, Sorting Out Quenched Jets, Phys. Rev. Lett. 122:222301 (2019) [arXiv:1812.05111].
- [95] Timothy Cohen, Gilly Elor, Andrew J. Larkoski, and Jesse Thaler, *Navigating Collinear Superspace*, JHEP 2002:146 (2020) [arXiv:1810.11032].
- [94] * Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, Energy Flow Networks: Deep Sets for Particle Jets, JHEP 1901:121 (2019) [arXiv:1810.05165].
- [93] § Hongwan Liu, Brodi D. Elwood, Matthew Evans, and Jesse Thaler, Searching for Axion Dark Matter with Birefringent Cavities, Phys. Rev. D100:023548 (2019) [arXiv:1809.01656].
- [92] * Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, An Operational Definition of Quark and Gluon Jets, JHEP 1811:059 (2018) [arXiv:1809.01140].
- [91] [†] Eleanor Hall and Jesse Thaler, *Photon Isolation and Jet Substructure*, JHEP 1809:164 (2018) [arXiv:1805.11622].
- [90] * Benjamin T. Elder and Jesse Thaler, Aspects of Track-Assisted Mass, JHEP 1903:104 (2019) [arXiv:1805.11109].
- [89] Frédéric A. Dreyer, Lina Necib, Gregory Soyez, and Jesse Thaler, *Recursive Soft Drop*, JHEP 1806:093 (2018) [arXiv:1804.03657].
- [88] * Eric M. Metodiev and Jesse Thaler, On the Topic of Jets: Disentangling Quarks and Gluons at Colliders, Phys. Rev. Lett. 120:241602 (2018) [arXiv:1802.00008].
- [87] * Patrick T. Komiske, Eric M. Metodiev, and Jesse Thaler, Energy Flow Polynomials: A Complete Linear Basis for Jet Substructure, JHEP 1804:013 (2018) [arXiv:1712.07124].

- [86] Evan Coleman, Marat Freytsis, Andreas Hinzmann, Meenakshi Narain, Jesse Thaler, Nhan Tran, and Caterina Vernieri, The Importance of Calorimetry for Highly-Boosted Jet Substructure, JINST 13:T01003 (2018) [arXiv:1709.08705].
- [85] * Eric M. Metodiev, Benjamin Nachman, and Jesse Thaler, Classification Without Labels: Learning from Mixed Samples in High Energy Physics, JHEP 1710:174 (2017) [arXiv:1708.02949].
- [84] [†] Christopher Frye, Andrew J. Larkoski, Jesse Thaler, and Kevin Zhou, Casimir Meets Poisson: Improved Quark/Gluon Discrimination with Counting Observables, JHEP 1709:085 (2017) [arXiv:1704.06266].
- [83] †§ Aashish Tripathee, Wei Xue, Andrew Larkoski, Simone Marzani, and Jesse Thaler, *Jet Substructure Studies with CMS Open Data*, Phys. Rev. D96:074003 (2017) [arXiv:1704.05842].
- [82] *† Benjamin T. Elder, Massimiliano Procura, Jesse Thaler, Wouter J. Waalewijn, and Kevin Zhou, Generalized Fragmentation Functions for Fractal Jet Observables, JHEP 1706:085 (2017) [arXiv:1704.05456].
- [81] [†] Andrew Larkoski, Simone Marzani, Jesse Thaler, Aashish Tripathee, and Wei Xue, Exposing the QCD Splitting Function with CMS Open Data, Phys. Rev. Lett. 119:132003 (2017) [arXiv:1704.05066].
- [80] Philippe Gras, Stefan Höche, Deepak Kar, Andrew Larkoski, Leif Lönnblad, Simon Plätzer, Andrzej Siódmok, Peter Skands, Gregory Soyez, and Jesse Thaler, Systematics of Quark/Gluon Tagging, JHEP 1707:091 (2017) [arXiv:1704.03878].
- [79] Yevgeny Kats, Matthew McCullough, Gilad Perez, Yotam Soreq, and Jesse Thaler, Colorful Twisted Top Partners and Partnerium at the LHC, JHEP 1706:126 (2017) [arXiv:1704.03393].
- [78] Philip Ilten, Nicholas L. Rodd, Jesse Thaler, and Mike Williams, *Disentangling Heavy Flavor at Colliders*, Phys. Rev. D96:054019 (2017) [arXiv:1702.02947].
- [77] * Ian Moult, Lina Necib, and Jesse Thaler, New Angles on Energy Correlation Functions, JHEP 1612:153 (2016) [arXiv:1609.07483].
- [76] Fabio Maltoni, Michele Selvaggi, and Jesse Thaler, Resurrecting the Dead Cone, Phys. Rev. D94:054015 (2016) [arXiv:1606.03449].
- [75] Philip Ilten, Yotam Soreq, Jesse Thaler, Mike Williams, and Wei Xue, *Inclusive Dark Photon Search at LHCb*, Phys. Rev. Lett. 116:251803 (2016) [arXiv:1603.08926].
- [74] Yonatan Kahn, Benjamin R. Safdi, and Jesse Thaler, *Broadband and Resonant Approaches to Axion Dark Matter Detection*, Phys. Rev. Lett. 117:141801 (2016) [arXiv:1602.01086].
- [73] Sergio Ferrara, Renata Kallosh, and Jesse Thaler, Cosmology with Orthogonal Nilpotent Superfields, Phys. Rev. D93:043516 (2016) [arXiv:1512.00545].
- [72] Philip Ilten, Jesse Thaler, Mike Williams, and Wei Xue, Dark Photons from Charm Mesons at LHCb, Phys. Rev. D92:115017 (2015) [arXiv:1509.06765].
- [71] † Jesse Thaler and Thomas F. Wilkason, Resolving Boosted Jets with XCone, JHEP 1512:051 (2015) [arXiv:1508.01518].

- [70] † Iain W. Stewart, Frank J. Tackmann, Jesse Thaler, Christopher K. Vermilion, and Thomas F. Wilkason, *XCone: N-jettiness as an Exclusive Cone Jet Algorithm*, JHEP 1511:072 (2015) [arXiv:1508.01516].
- [69] * Nayara Fonseca, Lina Necib, and Jesse Thaler, Dark Matter, Shared Asymmetries, and Galactic Gamma Ray Signals, JCAP 1602:052 (2016) [arXiv:1507.08295].
- [68] Jesse Thaler, Separated at Birth: Jet Maximization, Axis Minimization, and Stable Cone Finding, Phys. Rev. D92:074001 (2015) [arXiv:1506.07876].
- [67] * Yonatan Kahn, Daniel A. Roberts, and Jesse Thaler, The Goldstone and Goldstino of Supersymmetric Inflation, JHEP 1510:001 (2015) [arXiv:1504.05958].
- [66] Andrew J. Larkoski, Simone Marzani, and Jesse Thaler, Sudakov Safety in Perturbative QCD, Phys. Rev. D91:111501 (2015) [arXiv:1502.01719].
- [65] Daniele Bertolini, Jesse Thaler, and Jonathan R. Walsh, *The First Calculation of Fractional Jets*, JHEP 1505:008 (2015) [arXiv:1501.01965].
- [64] * Yonatan Kahn, Gordan Krnjaic, Jesse Thaler, and Matthew Toups, DAEdALUS and Dark Matter Detection, Phys. Rev. D91:055006 (2015) [arXiv:1411.1055].
- [63] Andrew J. Larkoski, Jesse Thaler, and Wouter J. Waalewijn, *Gaining (Mutual) Information about Quark/Gluon Discrimination*, JHEP 1411:129 (2014) [arXiv:1408.3122].
- [62] Andrew J. Larkoski and Jesse Thaler, *Aspects of Jets at 100 TeV*, Phys. Rev. D90:034010 (2014) [arXiv:1406.7011].
- [61] * Kaustubh Agashe, Yanou Cui, Lina Necib, and Jesse Thaler, (In)direct Detection of Boosted Dark Matter, JCAP 1410:062 (2014) [arXiv:1405.7370].
- [60] Andrew J. Larkoski, Simone Marzani, Gregory Soyez, and Jesse Thaler, Soft Drop, JHEP 1405:146 (2014) [arXiv:1402.2657].
- [59] Andrew J. Larkoski, Duff Neill, and Jesse Thaler, Jet Shapes with the Broadening Axis, JHEP 1404:017 (2014) [arXiv:1401.2158].
- [58] * Daniele Bertolini, Tucker Chan, and Jesse Thaler, Jet Observables Without Jet Algorithms, JHEP 1404:013 (2014) [arXiv:1310.7584].
- [57] * Yonatan Kahn, Matthew McCullough, and Jesse Thaler, Auxiliary Gauge Mediation: A New Route to Mini-Split Supersymmetry, JHEP 1311:161 (2013) [arXiv:1308.3490].
- [56] * Francesco D'Eramo, Jesse Thaler, and Zoe Thomas, Anomaly Mediation from Unbroken Super-gravity, JHEP 1309:125 (2013) [arXiv:1307.3251].
- [55] Andrew J. Larkoski and Jesse Thaler, *Unsafe but Calculable: Ratios of Angularities in Perturbative QCD*, JHEP 1309:137 (2013) [arXiv:1307.1699].
- [54] Hsi-Ming Chang, Massimiliano Procura, Jesse Thaler, and Wouter J. Waalewijn, *Calculating Track Thrust with Track Functions*, Phys. Rev. D88:034030 (2013) [arXiv:1306.6630].
- [53] John Kearney, Aaron Pierce, and Jesse Thaler, Exotic Top Partners and Little Higgs, JHEP 1310:230 (2013) [arXiv:1306.4314].

- [52] Andrew J. Larkoski, Gavin P. Salam, and Jesse Thaler, Energy Correlation Functions for Jet Substructure, JHEP 1306:108 (2013) [arXiv:1305.0007].
- [51] John Kearney, Aaron Pierce, and Jesse Thaler, Top Partner Probes of Extended Higgs Sectors, JHEP 1308:130 (2013) [arXiv:1304.4233].
- [50] Hsi-Ming Chang, Massimiliano Procura, Jesse Thaler, and Wouter J. Waalewijn, *Calculating Track-Based Observables for the LHC*, Phys. Rev. Lett. 111:102002 (2013) [arXiv:1303.6637].
- [49] * Daniele Bertolini, Jesse Thaler, and Zoe Thomas, Super-Tricks for Superspace, TASI 2012 [arXiv:1302.6229].
- [48] * Francesco D'Eramo, Matthew McCullough, and Jesse Thaler, Multiple Gamma Lines from Semi-Annihilation, JCAP 1304:030 (2013) [arXiv:1210.7817].
- [47] Vicent Mateu, Iain W. Stewart, and Jesse Thaler, *Power Corrections to Event Shapes with Mass-Dependent Operators*, Phys. Rev. D87:014025 (2013) [arXiv:1209.3781].
- [46] * Yonatan Kahn and Jesse Thaler, Searching for an Invisible A' Vector Boson with DarkLight, Phys. Rev. D86:115012 (2012) [arXiv:1209.0777].
- [45] Ilya Feige, Matthew D. Schwartz, Iain W. Stewart, and Jesse Thaler, *Precision Jet Substructure from Boosted Event Shapes*, Phys. Rev. Lett. 109:092001 (2012) [arXiv:1204.3898].
- [44] Nathaniel Craig, Matthew McCullough, and Jesse Thaler, Flavor Mediation Delivers Natural SUSY, JHEP 1206:046 (2012) [arXiv:1203.1622].
- [43] * Yonatan Kahn and Jesse Thaler, Locality in Theory Space, JHEP 1207:007 (2012) [arXiv:1202.5491].
- [42] * Francesco D'Eramo, Jesse Thaler, and Zoe Thomas, *The Two Faces of Anomaly Mediation*, JHEP 1206:151 (2012) [arXiv:1202.1280].
- [41] Nathaniel Craig, Matthew McCullough, and Jesse Thaler, The New Flavor of Higgsed Gauge Mediation, JHEP 1203:049 (2012) [arXiv:1201.2179].
- [40] *† Francesco D'Eramo, Lin Fei, and Jesse Thaler, Dark Matter Assimilation into the Baryon Asymmetry, JCAP 1203:010 (2012) [arXiv:1111.5615].
- [39] * Daniele Bertolini, Keith Rehermann, and Jesse Thaler, Visible Supersymmetry Breaking and an Invisible Higgs, JHEP 1204:130 (2012) [arXiv:1111.0628].
- [38] [†] Jesse Thaler and Ken Van Tilburg, Maximizing Boosted Top Identification by Minimizing N-subjettiness, JHEP 1202:093 (2012) [arXiv:1108.2701].
- [37] Nathaniel Craig, Daniel Stolarski, and Jesse Thaler, A Fat Higgs with a Magnetic Personality, JHEP 1111:145 (2011) [arXiv:1106.2164].
- [36] * Clifford Cheung, Francesco D'Eramo, and Jesse Thaler, *The Spectrum of Goldstini and Modulini*, JHEP 1108:115 (2011) [arXiv:1104.2600].
- [35] * Clifford Cheung, Francesco D'Eramo, and Jesse Thaler, Supergravity Computations without Gravity Complications, Phys. Rev. D84:085012 (2011) [arXiv:1104.2598].

- [34] * Jesse Thaler and Zoe Thomas, Goldstini Can Give the Higgs a Boost, JHEP 1107:060 (2011) [arXiv:1103.1631].
- [33] * Jesse Thaler and Ken Van Tilburg, *Identifying Boosted Objects with N-subjettiness*, JHEP 1103:015 (2011) [arXiv:1011.2268].
- [32] Martin Schmaltz, Daniel Stolarski, and Jesse Thaler, *The Bestest Little Higgs*, JHEP 1009:018 (2010) [arXiv:1006.1356].
- [31] Clifford Cheung, Jeremy Mardon, Yasunori Nomura, and Jesse Thaler, A Definitive Signal of Multiple Supersymmetry Breaking, JHEP 1007:035 (2010) [arXiv:1004.4637].
- [30] JiJi Fan, Jesse Thaler, and Lian-Tao Wang, Dark Matter from Dynamical SUSY Breaking, JHEP 1006:045 (2010) [arXiv:1004.0008].
- [29] * Francesco D'Eramo and Jesse Thaler, Semi-annihilation of Dark Matter, JHEP 1006:109 (2010) [arXiv:1003.5912].
- [28] Clifford Cheung, Yasunori Nomura, and Jesse Thaler, Goldstini, JHEP 1003:073 (2010) [arXiv:1002.1967].
- [27] David Krohn, Jesse Thaler, and Lian-Tao Wang, *Jet Trimming*, JHEP 1002:084 (2010) [arXiv:0912.1342].
- [26] Marat Freytsis, Zoltan Ligeti, and Jesse Thaler, Constraining the Axion Portal with B -¿ K l+ l-, Phys. Rev. D81:034001 (2010) [arXiv:0911.5355].
- [25] Christian W. Bauer, Zoltan Ligeti, Martin Schmaltz, Jesse Thaler, and Devin G.E. Walker, Supermodels for early LHC, Phys. Lett. B 690:280-288 (2010) [arXiv:0909.5213].
- [24] Marat Freytsis, Grigory Ovanesyan, and Jesse Thaler, Dark Force Detection in Low Energy e-p Collisions, JHEP 1001:111 (2010) [arXiv:0909.2862].
- [23] Jeremy Mardon, Yasunori Nomura, and Jesse Thaler, Cosmic Signals from the Hidden Sector, Phys. Rev. D80:035013 (2009) [arXiv:0905.3749].
- [22] David Krohn, Jesse Thaler, and Lian-Tao Wang, Jets with Variable R, JHEP 0906:059 (2009) [arXiv:0903.0392].
- [21] Jeremy Mardon, Yasunori Nomura, Daniel Stolarski, and Jesse Thaler, *Dark Matter Signals from Cascade Annihilations*, JCAP 0905:016 (2009) [arXiv:0901.2926].
- [20] Martin Schmaltz and Jesse Thaler, Collective Quartics and Dangerous Singlets in Little Higgs, JHEP 0903:137 (2009) [arXiv:0812.2477].
- [19] Yasunori Nomura and Jesse Thaler, Dark Matter through the Axion Portal, Phys. Rev. D79:075008 (2009) [arXiv:0810.5397].
- [18] David Poland and Jesse Thaler, The Dark Top, JHEP 0811:083 (2008) [arXiv:0808.1290].
- [17] Jesse Thaler and Lian-Tao Wang, Strategies to Identify Boosted Tops, JHEP 0807:092 (2008) [arXiv:0806.0023].
- [16] Christian W. Bauer, Frank J. Tackmann, and Jesse Thaler, GenEvA (II): A phase space generator from a reweighted parton shower, JHEP 0812:011 (2008) [arXiv:0801.4028].

- [15] Christian W. Bauer, Frank J. Tackmann, and Jesse Thaler, GenEvA (I): A new framework for event generation, JHEP 0812:010 (2008) [arXiv:0801.4026].
- [14] Yuval Grossman, Yosef Nir, Jesse Thaler, Tomer Volansky, and Jure Zupan, *Probing Minimal Flavor Violation at the LHC*, Phys. Rev. D76:096006 (2007) [arXiv:0706.1845].
- [13] Nima Arkani-Hamed, Bruce Knuteson, Stephen Mrenna, Philip Schuster, Jesse Thaler, Natalia Toro, and Lian-Tao Wang, MARMOSET: The Path from LHC Data to the New Standard Model via On-Shell Effective Theories [arXiv:hep-ph/0703088].
- [12] Aaron Pierce and Jesse Thaler, Natural Dark Matter from an Unnatural Higgs Boson and New Colored Particles at the TeV Scale, JHEP 0708:026 (2007) [arXiv:hep-ph/0703056].
- [11] Aaron Pierce, Jesse Thaler, and Lian-Tao Wang, Disentangling Dimension Six Operators through Di-Higgs Boson Production, JHEP 0705:070 (2007) [arXiv:hep-ph/0609049].
- [10] Hsin-Chia Cheng, Jesse Thaler, and Lian-Tao Wang, Little M-theory, JHEP 0609:003 (2006) [arXiv:hep-ph/0607205].
- [9] Clifford Cheung and Jesse Thaler, (Reverse) Engineering Vacuum Alignment, JHEP 0608:016 (2006) [arXiv:hep-ph/0604259].
- [8] Aaron Pierce and Jesse Thaler, *Prospects for Mirage Mediation*, JHEP 0609:017 (2006) [arXiv:hep-ph/0604192].
- [7] Hsin-Chia Cheng, Markus A. Luty, Shinji Mukohyama, and Jesse Thaler, *Spontaneous Lorentz Breaking at High Energies*, JHEP 0605:076 (2006) [arXiv:hep-th/0603010].
- [6] Nima Arkani-Hamed, Gordon L. Kane, Jesse Thaler, and Lian-Tao Wang, Supersymmetry and the LHC Inverse Problem, JHEP 0608:070 (2006) [arXiv:hep-ph/0512190].
- [5] Yuval Grossman, Can Kilic, Jesse Thaler, and Devin G. E. Walker, *Neutrino Constraints on Spontaneous Lorentz Violation*, Phys. Rev. D72:125001 (2005) [arXiv:hep-ph/0506216].
- [4] Jesse Thaler, Little Technicolor, JHEP 0507:024 (2005) [arXiv:hep-ph/0502175].
- [3] Jesse Thaler and Itay Yavin, The Littlest Higgs in Anti-de Sitter Space, JHEP 0508:022 (2005) [arXiv:hep-ph/0501036].
- [2] Nima Arkani-Hamed, Hsin-Chia Cheng, Markus A. Luty, and Jesse Thaler, *Universal Dynamics of Spontaneous Lorentz Violation and a New Spin-Dependent Inverse-Square Law Force*, JHEP 0507:029 (2005) [arXiv:hep-ph/0407034].
- [1] Antal Jevicki and Jesse Thaler, Dynamics of black hole formation in an exactly solvable model, Phys. Rev. D66 024041 (2002) [arXiv:hep-th/0203172].

Invited Presentations

See http://www.jthaler.net/cv for a complete list of talks, including invited seminars, plenary talks, and additional workshop and conference talks.

Colloquia

• "Centaur Science: Particle Physics meets Machine Learning"

Physics Colloquium, NYU, April 2025

Lauritsen Memorial Lecture, Caltech, March 2025

Physics Colloquium, U. Wisconsin, Madison, February 2025

Colloquium, U. Puerto Rico, Mayagüez, February 2025

Physics Colloquium, U. New Hampshire, November 2024

Physics and Astronomy Colloquium, U. Minnesota, November 2024

• "The Hidden Geometry of Particle Collisions"

Physics Colloquium, UMass Amherst, May 2024

Computer Science Colloquium, Tufts, November 2023

Particle Physics Colloquium, KIT Karlsruhe, November 2020 (virtual)

Theory Colloquium, CERN, May 2020 (virtual)

• "Particle Physics through the Lens of Machine Learning"

Physics and Astronomy Colloquium, Northwestern, March 2023

Physics Colloquium, Technion, January 2023

Physics Colloquium, Tel Aviv, January 2023

Physics Colloquium, Brown, November 2022

- "The Geometry of Particle Collisions: Hidden in Plain Sight", Physics Colloquium, Brandeis, February 2022
- "Collision Course: Particle Physics meets Machine Learning"

Physics Colloquium, U.C. San Diego, May 2021 (virtual)

Physics and Astronomy Colloquium, U. New Mexico, April 2021 (virtual)

Physics Colloquium, U.C. Santa Barbara, April 2021 (virtual)

Physics Colloquium, Northern Illinois University, February 2021 (virtual)

Nordita Colloquium, Stockholm University, February 2021 (virtual)

Physics Colloquium, University of Chicago, February 2021 (virtual)

Physics Colloquium, All Israel, November 2020 (virtual)

Physics Colloquium, Harvard, November 2020 (virtual)

Physics Colloquium, University of Maryland, October 2020 (virtual)

Physics Colloquium, Case Western Reserve University, November 2019

Physics and Astronomy Colloquium, Rice University, October 2019

Physics Colloquium, Oakland University, October 2019

Physics Colloquium, Tufts University, September 2019

- "The Future is Open: Adventures with Public Collider Data", Colloquium, Fermilab, September 2020 (virtual)
- "Jet Substructure at the Frontiers of Particle Physics"

Physics Colloquium, University of Milan, March 2018

Physics Colloquium, University of Illinois, Urbana-Champaign, October 2017

• "New Physics Gets a Boost: Jet Substructure at the Large Hadron Collider" Colloquium, *Perimeter Institute*, May 2017

Physics Colloquium, U.C. Berkeley, April 2017

Physics Colloquium, University of Texas, Austin, March 2017

Physics Colloquium, MIT, October 2016

Physics and Astronomy Colloquium, University of California, Riverside, October 2016

Physics Colloquium, University at Buffalo, September 2016

• "Jet Substructure: Boosting the Search for New Physics at the LHC"

Physics Colloquium, University of Chicago, May 2016

Physics Colloquium, Michigan State University, January 2016

• "The Rise of Jet Substructure: Boosting the Search for New Physics at the LHC"

Physics Colloquium, U.C. Santa Cruz, November 2015

Physics Colloquium, Brandeis, September 2015

• "The Case for Jet Substructure"

Physics Colloquium, Caltech, November 2014

Colloquium, MIT Laboratory for Nuclear Science, April 2014

• "(Non)perturbative QCD and Jet Substructure"

Triangle Nuclear Theory Colloquium, Duke University, March 2014

Theory Colloquium, University of Maryland, October 2013

• "The Shape of Jets to Come: Boosting the Search for New Physics at the LHC"

Physics Colloquium, University of Oregon, May 2013

Physics Colloquium, Cornell University, February 2013

- "Anticipating New Data from the Energy Frontier", Physics Colloquium, Brown University, February 2011
- "The Large Hadron Collider", Physics Colloquium, Wellesley College, October 2010
- "The Shape of Jets to Come", Colloquium, MIT Laboratory for Nuclear Science, February 2010

Public Lectures

- "Deep Learning + Deep Thinking = Deeper Understanding", Glicksman Forum, Brown, May 2025
- "Centaur Science: Particle Physics meets Machine Learning", Presidential Lecture, Simons Foundation, December 2024
- "Opening Keynote (with Eric Mazur)", Education in the Age of Generative AI, *Perusall Exchange*, June 2024 (virtual)
- "Predictably Uncertain: A Physicist's Perspective on AI Policy", Off the Record Foreign Policy Association Lecture, New York City Bar Association, March 2024
- "Collision Course: Artificial Intelligence meets Fundamental Physics"

 Distinguished Lecture, National Science Foundation, January 2023 (virtual)

Keynote Presentation, Tommy Flowers Network Conference, October 2020 (virtual)

- "Artificial Intelligence Meets Fundamental Physics", MIT Inside Track Master Class, *EmTech Digital*, March 2021 (virtual)
- "Listening to the Invisible Universe", Program with A Far Cry: Open Rehearsal of Gravity, *Harvard Education Portal*, *April 2019*
- "Confronting the Invisible Universe"

MIT Club of Great Britain Event, London, May 2018

Public Talk, Aspen Center for Physics, March 2017

• "The Higgs Boson: Triumph of the Standard Model"
24th Annual Kavli Frontiers of Science, National Academy of Sciences, U.C. Irvine, November 2012
Lecture Series Committee, MIT, October 2012

Lecture Series & Schools

- "The (Hidden) Geometry of Particle Collisions", Summer School on Neurosymbolic Programming, Salem, MA, June 2024
- "The Coming Decade(s) of Particle Physics", TASI 2024, CU Boulder, June 2024
- "The Standard Model", School on Table-Top Experiments for Fundamental Physics, *Perimeter Institute*, September 2022
- "Confronting the Invisible Universe", Intro to Modern Physics, MIT Lincoln Labs, March 2022
- "QCD and Collider Physics", Lectures on the Theory of Fundamental Interactions, GGI, Florence, January 2020
- "Collider Physics", Cargese 2018 International Summer School, Corsica, July 2018
- "Jet Substructure"
 Theoretical and Experimental Issues on Jet Structure at Hadron Colliders, Kavli IMPU and KEK, January 2017
 PiTP Summer School, Princeton, July 2013
- "Jet Physics", MITP Summer School, Mainz, July 2016
- "The Case for Jet Substructure", Theorist of the Month, DESY, June 2014
- "Super-tricks for Superspace", TASI Summer School, C.U. Boulder, June 2012
- "Little Lessons for a Little Higgs", ICTP Winter School, Trieste, January 2012
- "Anticipating New Data from the Energy Frontier", Topic of the Week Lecture Series, Fermilab, November 2010
- "Entering the LHC Era", Felix Villars Theoretical Physics Retreat, MIT CTP, January 2010

Research Contracts, Grants, and Gifts

- MGAIC Award (with Phiala Shanahan), "Physics Predictions from Physical Generative AI", MIT Generative AI Impact Consortium, 2025–2026 (\$50k)
- Conference Award, "Future of AI and the Mathematical and Physical Sciences (AI+MPS)", National Science Foundation, 2025 (\$100k)
- Unrestricted Gift, "Interpretation of Multimodal Images from Astronomy", Google, 2023 (\$50k)
- Simons Investigator in Physics, Simons Foundation, 2023–2028 (\$960k)
- AI Research Institute, "Institute for Artificial Intelligence and Fundamental Interactions (IAIFI)", National Science Foundation, 2020–2025 (\$20M)
- MIT-Israel Zuckerman STEM Fund Award (with Tracy Slatyer, Tomer Volansky, Yotam Soreq), "The Quest for Dark Matter Interactions", MIT International Science and Technology Initiative (MISTI), 2020–2023 (\$25.5k)
- PIER Hamburg-MIT Seed Project (with Gregor Kasieczka, Phil Harris, Andreas Hinzmann, Roman Kogler, Iain Stewart), "Probing the Standard Model with Jet Substructure", Partnership for Innovation, Education and Research (PIER), 2019–2020 (€17k)

- Quantum Information Science (QuantISED) Award (with Aram Harrow), "Quantum Algorithms for Collider Physics", U.S. Department of Energy, Office of High Energy Physics, 2018–2020 (\$264k)
- Simons Fellowship, "Theoretical Investigations In and Beyond the Standard Model", Simons Foundation, 2018–2019 (\$142.8k)
- Comparative Review Funding Award, "Boosting the Search for New Physics at the Frontiers", U.S. Department of Energy, Office of High Energy Physics, 2016–2017 (\$120k)
- The Charles E. Reed Faculty Initiatives Fund, "Boosting Jet Physics with Archival Collider Data", MIT Research Support Committee, 2015–2017 (\$75k)
- MIT-Belgium Seed Fund Award (with Fabio Maltoni), "Beyond the Standard Model at the LHC", MIT International Science and Technology Initiative, 2013–2014 (\$23.1k)
- Sloan Research Fellowship, Alfred P. Sloan Foundation, 2013–2016 (\$50k)
- Global Seed Fund Award (with Iain Stewart, Andre Hoang, Gavin Salam), "Probing a New Energy Frontier with Jets at the Large Hadron Collider", MIT International Science and Technology Initiative, 2012–2013 (\$15k)
- Early Career Research Award, "Interpreting New Data from the Energy Frontier", U.S. Department of Energy, Office of Science, 2011–2016 (\$750k)
- Cooperative Research Agreement, "Laboratory for Nuclear Science, High Energy Physics Program: Task C, Center for Theoretical Physics", U.S. Department of Energy, Office of Science, 2010–present

MIT Educational Commons

- Originator of "Flexible P/NR" grading option (Approved by MIT Faculty, May 2020)
- Faculty Committees: Large Scale Proposal Task Force; Committee on Curricula (see above)
- UROP Supervision: 24 students (see above)
- First-Year Advising: 4 students (see above)
- Teaching General Institute Requirements (GIR): 8.02 (Spring 2014, Spring 2015, Spring 2016)
- MIT School of Science Breakfast Talk, "Deep Learning + Deep Thinking = Deeper Understanding", October 2024
- MIT School of Science IET London Event, "Deep Learning + Deep Thinking = Deeper Understanding", May 2024
- MIT Visit from Permanent Secretary of Singapore for National Research and Development, "Deep Learning + Deep Thinking = Deeper Understanding", April 2024
- MIT Physics Breakfast in Palo Alto, "Deep Learning + Deep Thinking = Deeper Understanding", March 2024
- MIT Physics Career Panel, "SPS/PGSC Career Panel", November 2021
- MIT Postdoctoral Association Panel Discussion, "Making the Cut Job Searching During a COVID-19 Economy", June 2020
- MIT Graduate Student Council Panel Discussion, "The Nuts and Bolts of Academic Job Search", *July* 2018
- MIT PhysPOP Orientation Lecture, "Implications of the Higgs Boson", August 2013
- MIT MISTI Presentation, "The Higgs Boson: Keystone of the Standard Model", April 2013
- MIT Astronomical Event Presentation, "Dark Matter Beyond the Standard Model", October 2012

${\it Jesse \ Thaler-- Curriculum \ Vitae}$

- MIT Physics Alumni Breakfast, "Hints of New Physics at the Energy Frontier", May 2012
- MIT PhysPOP Orientation Lecture, "Beyond the Standard Model at the Frontiers", August 2011
- MIT Physics IAP Lecture, "The LHC Won't Destroy the Planet (But Will Spark a Revolution)", January 2010
- Physics@MIT Journal, "Listening for Dark Matter from the Basement of Building 24" (with Lindley Winslow), Fall 2019
- MIT Lecture Series Committee, Q&A for "Particle Fever", September 2014