

Tim Linden

CCAPP POSTDOCTORAL FELLOW · THE OHIO STATE UNIVERSITY

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Employment

The Ohio State University

Columbus, OH

POSTDOCTORAL FELLOW

July 2015 — Present

- Center for Cosmology and AstroParticle Physics Fellow (July 2015 — Present)
- Einstein Postdoctoral Fellow (July 2015 — June 2016)

University of Chicago

Chicago, IL

POSTDOCTORAL FELLOW

July 2013 — June 2015

- Kavli Institute for Cosmological Physics Postdoctoral Fellow
- Einstein Postdoctoral Fellow

Education

University of California, Santa Cruz

Santa Cruz, CA

PH.D. IN PHYSICS

September 2008 — June 2013

- Thesis: *Dark Matter Annihilation in the Galactic Center*
- Advisor: Stefano Profumo

Northwestern University

Evanston, IL

B.A. IN INTEGRATED SCIENCE PROGRAM, PHYSICS, MATHEMATICS

September 2004 — June 2008

Publication Statistics

71 articles and letters (67 accepted, 4 under review)

inspire: **3015** citations, h-index: **29**

Presentation Statistics

42 academic presentations since January 1, 2017

3 colloquia (**4** additional colloquia currently scheduled)

13 invited conference presentations

Accepted Proposals and Current Support

10 accepted proposals (**3** provide current funding)

Significant Honors & Awards

2018 **Michelson Postdoctoral Prize Lectureship**

Case Western Reserve University

2013 — 2016 **Einstein Postdoctoral Fellowship**

NASA

Accepted Proposals

Illuminating Inner Heliospheric Cosmic Rays with Gamma Rays

CO-INVESTIGATOR (PI: ANNIKA PETER)

Fermi GI Cycle 11
August 2018 — July 2019

Using XMM to study the TeV Halos Surrounding Energetic Pulsars

CO-INVESTIGATOR (PI: KATIE AUCHETTL)

XMM-Newton AO-17
87 kS Observation (Oct. 2018)

Novel Diffuse Emission Models for the Central Molecular Zone

PRIMARY INVESTIGATOR

Fermi GI Cycle 10
October 2017 — September 2018

Using Fermi Dark Matter Annihilation Constraints to Probe the Early Universe

CO-INVESTIGATOR (PI: ADRIENNE ERICKCEK)

Fermi GI Cycle 10
October 2017 — September 2018

Revealing the Sun's Coronal Magnetic Fields with Gamma Rays

CO-INVESTIGATOR (PI: ANNIKA PETER)

Fermi GI Cycle 10
October 2017 — September 2018

Understanding γ -Rays from the Galactic Center: Constraining Millisecond Pulsars

CO-INVESTIGATOR (PI: FABIO ANTONINI)

Fermi GI Cycle 8
October 2015 — September 2016

The Smith Cloud: A High-Velocity Cloud Confined by Dark Matter

PRIMARY INVESTIGATOR

Fermi GI Cycle 6
August 2013 — July 2014

A Multiwavelength Model for Novel Physics in the Galactic Center

FELLOWSHIP RECIPIENT (PI, CHICAGO: DAN HOOPER, PI, OHIO STATE: ANNIKA PETER)

Einstein Fellowship
July 2013 — June 2016

The Small Magellanic Cloud - A Case Study of X-Ray Populations at Low Metallicity

CO-INVESTIGATOR (PI: ANDREAS ZEZAS)

Chandra Cycle 14
2013

Ultra-Luminous X-Ray Sources in the Most Metal-Poor Galaxies

CO-INVESTIGATOR (PI: ANDREA PRESTWICH)

Chandra Cycle 11
2010

Service & Outreach

Eighth International Fermi Symposium

SCIENTIFIC ORGANIZING COMMITTEE

Fall 2018

Friends of Ohio State Astronomy and Astrophysics

FEATURED SPEAKER

Spring 2018

Co-Chair of Local Organizing Committee

TeVPA 2017 INTERNATIONAL CONFERENCE

Summer 2017

Featured Speaker

HUBBLE CIRCLE IMMERSION WEEKEND

Mar. 2014

Volunteer Scientist

ADLER PLANETARIUM

2013—14

Graduate Student Liason

FERMILAB USERS EXECUTIVE COMMITTEE

2010—11

Referee

PHYSICAL REVIEW LETTERS, PHYSICAL REVIEW D, THE ASTROPHYSICAL JOURNAL, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, JOURNAL OF HIGH ENERGY PHYSICS, PHYSICS OF THE DARK UNIVERSE AND PHYSICS LETTERS B

2009 — Present

Significant Publications

- Self-Generated Cosmic-Ray Confinement in TeV Halos: Implications for TeV γ -ray Emission and the Positron Excess** PRD 98, 063017
CARMELO EVOLI, TIM LINDEN, GIOVANNI MORLINO arXiv: 1807.09263
- An Unexpected Dip in the Solar Gamma-Ray Spectrum** PRD 98 063019
QING-WEN TANG, KENNY NG, TIM LINDEN, BEI ZHOU, JOHN BEACOM, ANNIKA PETER arXiv: 1804.06846
- Evidence for a New Component of High-Energy Solar Gamma-Ray Production** PRL 121 131103
TIM LINDEN, BEI ZHOU, JOHN BEACOM, ANNIKA PETER, KENNY NG, QING-WEN TANG arXiv: 1803.09263
- Black Mergers, Quiet Kilonovae, and r-Process Afterglow Donuts From Dark Matter** PRD, 97, 055016
JOE BRAMANTE, TIM LINDEN, YU-DAI TSAI arXiv: 1706.00001
- Dark Kinetic Heating of Neutron Stars: An Infrared Window On WIMPs, SIMPs and Higgsinos** PRL 119, 131801
MASHA BARYAKHTAR, JOSEPH BRAMANTE, SHIRLEY WEISHI LI, TIM LINDEN, NIRMAL RAJ arXiv: 1704.01577
- Pulsar TeV Halos Explain the Diffuse TeV Excess Observed by Milagro** PRL 120, 121101
TIM LINDEN, BENJAMIN BUCKMAN arXiv: 1707.01905
- Using HAWC to Detect Invisible Pulsars** PRD 96, 103016
TIM LINDEN, KATIE AUCHETTL, JOE BRAMANTE, ILIAS CHOLIS, KE FANG, DAN HOOPER, TANVI KARWAL, SHIRLEY LI arXiv: 1703.09704
- HAWC Observations Strongly Favor Pulsar Interpretations of the Cosmic-Ray Positron Excess** PRD 96 103013
DAN HOOPER, ILIAS CHOLIS, TIM LINDEN, KE FANG arXiv: 1702.08436
- Cosmic-Ray Injection from Star-Forming Regions** PRL 117, 111101
ERIC CARLSON, TIM LINDEN, STEFANO PROFUMO arXiv: 1510.04698
- Detecting Dark Matter with Imploding Pulsars in the Galactic Center** PRL 113, 191301
JOSEPH BRAMANTE, TIM LINDEN arXiv: 1405.1031
- The Galactic Center Excess from the Annihilation of Self-Interacting Dark Matter** PRL 114 211303
MANOJ KAPLINGHAT, TIM LINDEN, HAI-BO YU arXiv: 1501.03507
- Challenges in Explaining the Galactic Center Gamma-Ray Excess with MSPs** JCAP 06 043 (2014)
ILIAS CHOLIS, DAN HOOPER, TIM LINDEN arXiv: 1407.5625
- The Characterization of the γ -Ray Signal from the Central Milky Way: A Compelling Case for Annihilating Dark Matter** PDU 12 1 2016
TANSU DAYLAN, DOUG FINKBEINER, DAN HOOPER, TIM LINDEN, STEPHEN PORTILLO, NICK RODD, TRACY SLATYER arXiv: 1402.6703
- Tying Dark Matter to Baryons with Self-Interactions** PRL 113 021302
MANOJ KAPLINGHAT, RYAN KEELEY, TIM LINDEN, HAI-BO YU arXiv: 1311.6524
- Probing the Pulsar Origin of the Anomalous Positron Fraction with AMS-02 and ACTs** ApJ 772 18
TIM LINDEN, STEFANO PROFUMO arXiv: 1304.1791
- On the Origin of the Gamma Rays from the Galactic Center** PRD 84 123005
DAN HOOPER, TIM LINDEN arXiv: 1110.0006
- The Effect of Starburst Metallicity on X-Ray Binary Formation Pathways** ApJ 725 2 1984
TIM LINDEN, VICKY KALOGERA, JEREMY SEPINSKY, ANDREA PRESTWICH, ANDREAS ZEAS, JAY GALLAGHER arXiv: 1005.1639

Recent Colloquia, Seminars and Conferences

Presentations dating back to January 2017 are shown here.

Full list and slides from all presentations are accessible at <http://trlinden.com/presentations.html>

10-31-18	Boston University High Energy Theory Seminar	Boston, MA
10-18-18	Eighth International Fermi Symposium	Baltimore, MD
10-8-18	Interplay Between Particle and AstroParticle Physics	Cincinnati, OH
10-5-18	Case Western Michelson Postdoctoral Prize Astronomy Seminar	Cleveland, OH
10-4-18	Case Western Michelson Postdoctoral Prize Physics Colloquium	Cleveland, OH
10-2-18	Case Western Michelson Postdoctoral Prize Particle Physics Seminar	Cleveland, OH
10-1-18	Case Western Michelson Postdoctoral Prize Condensed Matter Seminar	Cleveland, OH
8-30-18	TeVPA 2018	Berlin, Germany
7-26-18	Identification of Dark Matter 2018	Providence, RI
7-17-18	COSPAR 2018	Pasadena, CA
6-29-18	Fermilab Joint Experimental-Theoretical Physics Seminar	Batavia, IL
6-5-18	PASCOS 2018	Cleveland, OH
5-21-18	Mitchell Conference on Collider, Dark Matter, and Neutrino Physics	College Station, TX
5-9-18	UC - Irvine Particle Physics Seminar	Irvine, CA
5-2-18	The Small Scale Structure of Cold(?) Dark Matter	Santa Barbara, CA
4-15-18	2018 April APS Meeting	Columbus, OH
4-11-18	"Towards Dark Matter Discovery" Workshop	Chicago, IL
4-4-18	HAWC General Meeting	Online
3-19-18	HEAD 2020 Decadal Meeting	Chicago, IL
3-6-18	University of Cincinnati HEP Seminar	Cincinnati, OH
2-22-18	2018 UCLA Dark Matter Workshop	Los Angeles, CA
1-31-18	University of Michigan LCTP Seminar	Ann Arbor, MI
1-10-18	American Astronomical Society 231st Meeting	Washington D.C.
11-28-17	University of Wisconsin, Madison NPAC Forum	Madison, WI
11-20-17	The Ohio State University HEP/AST Seminar	Columbus, OH
11-14-17	Michigan State University HEP/HET Seminar	East Lansing, MI
10-23-17	Three Elephants in the Gamma-Ray Sky Workshop	Garmisch, Germany
10-16-17	7th International Fermi Symposium	Garmisch, Germany
10-13-17	Columbus-Amsterdam-Paris-Stockholm Meeting	Amsterdam, Netherlands
8-8-17	TeVPA 2017	Columbus, OH
7-19-17	Radio Synchrotron Background Conference	Richmond, VA
7-6-17	Imperial College Brown Bag Seminar	London, United Kingdom
7-5-17	King's College Astrophysics Seminar	London, United Kingdom
6-27-17	RISE Astrostatistics Meeting	Heraklion, Greece
6-20-17	Stockholm/Oskar Klein Colloquium	Stockholm, Sweden
6-14-17	LHC Results Forum	Online
6-13-17	GRAPPA Summer Seminar	Amsterdam, Netherlands
5-16-17	Baryon & Lepton Violation	Cleveland, OH
5-11-17	University of Maryland/JSI Special Seminar	College Park, MD
4-25-17	Solar Energetic Particles, Solar Modulation, and Space Radiation	Washington D.C.
3-3-17	Cosmic Rays, Pulsars, and Dark Matter	Santa Fe, NM
1-30-17	2017 APS April Meeting	Washington D.C.

Teaching and Lecturing

80th Compton Lecture Series

Faculty Contact: Emil Martinec

LECTURER

Fall 2014

- Produced, organized, and presented nine weekly public lectures to approximately 75 people
- Lecture Series Title: *Shining Light on the Dark Side of the Universe*

Physics 116B (Mathematical Methods in Physics)

Primary Instructor: Stefano Profumo

TEACHING ASSISTANT

Winter 2012

- Led Weekly Recitation Sessions, held office hours, and graded exams.
- Topics included Differential Equations, Linear Algebra, Matrices, Eigenvectors and Eigenvalues

Physics 5A (Classical Mechanics)

Primary Instructor: David Smith

TEACHING ASSISTANT

Fall 2011

- Led Laboratory Portion of the Course, held office hours, and graded homework and exams.
- Topics Included kinematics, conservation of momenta and energy, simple harmonic motion.

Co-Advised Students

Takahiro Sudoh

Faculty Advisor: Tomonori Totani

VISITING GRADUATE STUDENT, THE OHIO STATE UNIVERSITY

2018 — Present

Ben Buckman

Faculty Advisor: Annika Peter

GRADUATE STUDENT, THE OHIO STATE UNIVERSITY

2015 — Present

Ke Fang

Faculty Advisor: Angela Olinto

GRADUATE STUDENT, UNIVERSITY OF CHICAGO

2014—2015

Miles Gray

Faculty Advisor: Stefano Profumo

UNDERGRADUATE STUDENT, UNIVERSITY OF CALIFORNIA, SANTA CRUZ

2012—2013

Eric Carlson

Faculty Advisor: Stefano Profumo

GRADUATE STUDENT, UNIVERSITY OF CALIFORNIA, SANTA CRUZ

2011—2016

References

John Beacom

PROFESSOR OF PHYSICS AND ASTRONOMY — THE OHIO STATE UNIVERSITY

- beacom.7@osu.edu
- (614) 247-8102

Dan Hooper

SCIENTIST — FERMILAB; ASSOCIATE PROFESSOR OF ASTRONOMY — UNIVERSITY OF CHICAGO

- dhooper@fnal.gov
- (630) 840-3758

Julie McEnery

FERMI PROJECT SCIENTIST — GODDARD SPACE FLIGHT CENTER

- julie.e.mcenery@nasa.gov
- (301) 286-1632

Stefano Profumo

Thesis Advisor

PROFESSOR OF PHYSICS — UNIVERSITY OF CALIFORNIA, SANTA CRUZ

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Tracy Slatyer

ASSOCIATE PROFESSOR OF PHYSICS — MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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