

# Tim Linden

POSTDOCTORAL FELLOW · THE OHIO STATE UNIVERSITY

Physics Research Building · 191 West Woodruff Ave · Columbus, OH 43210

☎ (614) 292-0734 | ✉ linden.70@osu.edu | 🏠 www.trlinden.com

## Employment

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### The Ohio State University

POSTDOCTORAL FELLOW

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

Columbus, OH

July 2015 — Present

### University of Chicago

POSTDOCTORAL FELLOW

- Einstein Postdoctoral Fellowship

Chicago, IL

July 2013 — June 2015

## Education

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### University of California, Santa Cruz

PH.D. IN PHYSICS

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

Santa Cruz, CA

September 2008 - June 2013

### Northwestern University

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

Evanston, IL

September 2004 — June 2008

## Publications

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60 articles and letters (54 accepted, 6 under review). Significant publications include:

### Cosmic-Ray Injection from Star-Forming Regions

ERIC CARLSON, TIM LINDEN, STEFANO PROFUMO

PRL 117, 111101

arXiv: 1510.04698

### On The Gamma-Ray Emission From Reticulum II and Other Dwarf Galaxies

DAN HOOPER, TIM LINDEN

JCAP 09 016 (2015)

arXiv: 1503.06209

### Challenges in Explaining the Galactic Center Gamma-Ray Excess with MSPs

ILIAS CHOLIS, DAN HOOPER, TIM LINDEN

JCAP 06 043 (2014)

arXiv: 1407.5625

### The Characterization of the Gamma-Ray Signal from the Central Milky Way: A Compelling Case for Annihilating Dark Matter

TANSU DAYLAN, DOUG FINKBEINER, DAN HOOPER, TIM LINDEN, STEPHEN PORTILLO, NICK RODD, TRACY SLATYER

PDU 12 1 (2016)

arXiv: 1402.6703

### Probing the Pulsar Origin of the Anomalous Positron Fraction with AMS-02 and Atmospheric Cherenkov Telescopes

TIM LINDEN, STEFANO PROFUMO

ApJ 772 18 (2013)

arXiv: 1304.1791

### On the Origin of the Gamma Rays from the Galactic Center

DAN HOOPER, TIM LINDEN

PRD 84 123005 (2011)

arXiv: 1110.0006

### The Effect of Starburst Metallicity on X-Ray Binary Formation Pathways

TIM LINDEN, VICKY KALOGERA, JEREMY SEPINSKY, ANDREA PRESTWICH, ANDREAS ZEZAS, JAY GALLAGHER

ApJ 725 2 1984 (2010)

arXiv: 1005.1639

## Presentations

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29 Conference Presentations and 16 seminars/colloquia over the last three years. Highlights include:

<b>Stockholm Oskar Klein Center Colloquium</b> <i>The Rise of the Leptons</i>	Stockholm, Sweden June 20, 2017
<b>2017 April APS Meeting</b> <i>The Galactic Center GeV Excess</i>	Washington D.C. January 30, 2017
<b>Gamma 2016</b> <i>The Galactic Center Environment and Dark Matter Annihilation</i>	Heidelberg, Germany July 13, 2016
<b>227th Meeting of the American Astronomical Society</b> <i>What is the Source of the Galactic Center Gamma-Ray Excess?</i>	Kissimmee, Florida January 6, 2016
<b>University of Illinois, Urbana-Champaign Astronomy Colloquium</b> <i>What is the Source of the Galactic Center Gamma-Ray Excess?</i>	Urbana, IL September 22, 2015
<b>Future of Gamma-Ray Observatories</b> <i>Dark Matter Indirect Detection with Future Space-Based Gamma-Ray Telescopes</i>	Greenbelt, Maryland February 5, 2015
<b>15 Years of Science with Chandra Symposium</b> <i>Modeling High-Mass X-Ray Binary Formation in the Chandra Era</i>	Boston, MA November 21, 2014

## Accepted Proposals

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<b>Novel Diffuse Emission Models for the Central Molecular Zone</b> PRIMARY INVESTIGATOR	Fermi GI Cycle 10 October 2017 — September 2018
<b>Using Fermi Dark Matter Annihilation Constraints to Probe the Early Universe</b> CO-INVESTIGATOR PI: ADRIENNE ERICKCEK	Fermi GI Cycle 10 October 2017 — September 2018
<b>Revealing the Sun's Coronal Magnetic Fields with Gamma Rays</b> CO-INVESTIGATOR PI: ANNIKA PETER	Fermi GI Cycle 10 October 2017 — September 2018
<b>Understanding Gamma-Ray Emission from the Galactic Center: Constraining the Millisecond Pulsar Population</b> CO-INVESTIGATOR PI: FABIO ANTONINI	Fermi GI Cycle 8 October 2015 — September 2016
<b>The Smith Cloud: A High-Velocity Cloud Confined by Dark Matter</b> PRIMARY INVESTIGATOR	Fermi GI Cycle 6 August 2013 — July 2014
<b>A Multiwavelength Model for Novel Physics in the Galactic Center</b> FELLOWSHIP RECIPIENT PI (CHICAGO): DAN HOOPER, PI (OHIO STATE): ANNIKA PETER	Einstein Fellowship July 2013 — June 2016
<b>The Small Magellanic Cloud - A Case Study of X-Ray Populations at Low Metallicity</b> CO-INVESTIGATOR PI: ANDREAS ZEZAS	Chandra Cycle 14 2013
<b>Ultra-Luminous X-Ray Sources in the Most Metal-Poor Galaxies</b> CO-INVESTIGATOR PI: ANDREA PRESTWICH	Chandra Cycle 11 2010

## Honors & Awards

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2012 — 2013	<b>Achievement Rewards for College Scientists (ARCS) Fellowship</b>	
2010 — 2011	<b>Fermilab Fellowship in Theoretical Physics</b>	
2008 — 2010	<b>Graduate Assistantship in Areas of National Need (GAANN) Fellowship</b>	
2008	<b>Distinguished Honors Thesis, Northwestern Department of Physics &amp; Astronomy</b>	
2008	<b>Distinguished Honors Thesis, Northwestern Integrated Science Program</b>	

## Service & Outreach

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<b>Co-Chair of Local Organizing Committee</b> TEVPA 2016 INTERNATIONAL CONFERENCE	Fall 2017
<b>Organizer and Lecturer</b> 80TH COMPTON LECTURE SERIES	Fall 2014
<b>Speaker</b> HUBBLE IMMERSION CIRCLE WEEKEND	Mar. 2014
<b>Volunteer Scientist</b> ADLER PLANETARIUM	2013—14
<b>Executive Committee Member</b> FERMILAB GRADUATE STUDENT ASSOCIATION	2010—11
<b>Graduate Student Liason</b> FERMILAB USERS EXECUTIVE COMMITTEE	2010—11
<b>Referee</b> 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

## Teaching and Lecturing

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<b>80th Compton Lecture Series</b> LECTURER	Faculty Contact: Emil Martinec Fall 2014
<ul style="list-style-type: none"><li>Produced, organized, and presented nine weekly public lectures to approximately 75 people</li><li>Lecture Series Title: <i>Shining Light on the Dark Side of the Universe</i></li></ul>	
<b>Physics 116B (Mathematical Methods in Physics)</b> TEACHING ASSISTANT	Primary Instructor: Stefano Profumo Winter 2012
<ul style="list-style-type: none"><li>Led Weekly Recitation Sessions, held office hours, and graded exams.</li><li>Topics included Differential Equations, Linear Algebra, Matrices, Eigenvectors and Eigenvalues</li></ul>	
<b>Physics 5A (Classical Mechanics)</b> TEACHING ASSISTANT	Primary Instructor: David Smith Fall 2011
<ul style="list-style-type: none"><li>Led Laboratory Portion of the Course, held office hours, and graded homework and exams.</li><li>Topics Included kinematics, conservation of momenta and energy, simple harmonic motion.</li></ul>	

## Co-Advised Students

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### Ben Buckman

GRADUATE STUDENT, THE OHIO STATE UNIVERSITY

Faculty Advisor: Annika Peter

2015 — Present

### Ke Fang

GRADUATE STUDENT, UNIVERSITY OF CHICAGO

Faculty Advisor: Angela Olinto

2014—2015

### Miles Gray

UNDERGRADUATE STUDENT, UNIVERSITY OF CALIFORNIA, SANTA CRUZ

Faculty Advisor: Stefano Profumo

2012—2013

### Eric Carlson

GRADUATE STUDENT, UNIVERSITY OF CALIFORNIA, SANTA CRUZ

Faculty Advisor: Stefano Profumo

2011—2016

## References

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### Stefano Profumo

PROFESSOR OF PHYSICS — UNIVERSITY OF CALIFORNIA, SANTA CRUZ

- profumo@ucsc.edu
- (831) 459-3039

Thesis Advisor

### 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

### Vicky Kalogera

PROFESSOR OF PHYSICS AND ASTRONOMY — NORTHWESTERN UNIVERSITY

- vicky@northwestern.edu
- (847) 491-5669

### Todd Thompson

PROFESSOR OF ASTRONOMY — THE OHIO STATE UNIVERSITY

- thompson@astronomy.ohio-state.edu
- (614) 292-7971

## Full Presentation List

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Slides from all talks are accessible at <http://trlinden.com/presentations.html>

8-8-17	<b>TeVPA 2017</b>	<i>Columbus, OH</i>
7-19-17	<b>Radio Synchrotron Background Conference</b>	<i>Richmond, VA</i>
7-6-17	<b>Imperial College Brown Bag Seminar</b>	<i>London, United Kingdom</i>
7-5-17	<b>King's College Astrophysics Seminar</b>	<i>London, United Kingdom</i>
6-27-17	<b>RISE Astrostatistics Meeting</b>	<i>Heraklion, Greece</i>
6-20-17	<b>Stockholm/Oskar Klein Colloquium</b>	<i>Stockholm, Sweden</i>
6-14-17	<b>LHC Results Forum</b>	<i>Online</i>
6-13-17	<b>GRAPPA Summer Seminar</b>	<i>Amsterdam, Netherlands</i>
5-16-17	<b>Baryon &amp; Lepton Violation</b>	<i>Cleveland, OH</i>
5-11-17	<b>University of Maryland/JSI Special Seminar</b>	<i>College Park, MD</i>
4-25-17	<b>Solar Energetic Particles, Solar Modulation, and Space Radiation</b>	<i>Washington D.C.</i>
3-3-17	<b>Cosmic Rays, Pulsars, and Dark Matter</b>	<i>Santa Fe, NM</i>
1-30-17	<b>2017 APS April Meeting</b>	<i>Washington D.C.</i>
11-03-16	<b>Washington University Theory Seminar</b>	<i>St. Louis, MO</i>
09-15-16	<b>TeVPA 2016</b>	<i>Geneva, Switzerland</i>
08-30-16	<b>2016 Amsterdam Paris Stockholm Meeting</b>	<i>Gouvieux, France</i>
08-16-16	<b>CCAPP Summer Seminar</b>	<i>Columbus, OH</i>
08-10-16	<b>Cosmo 2016</b>	<i>Ann Arbor, MI</i>
07-13-16	<b>Gamma 2016</b>	<i>Heidelberg, Germany</i>
07-07-16	<b>CETUP 2016</b>	<i>Deadwood, SD</i>
06-22-16	<b>MACROS 2016</b>	<i>State College, PA</i>
06-04-16	<b>Workshop on Non-Standard Dark Matter</b>	<i>Warsaw, Poland</i>
05-02-16	<b>Dark Matter in the Milky Way</b>	<i>Mainz, Germany</i>
02-18-16	<b>12th UCLA Dark Matter Meeting</b>	<i>Los Angeles, CA</i>
01-06-16	<b>227th AAS Meeting</b>	<i>Kissimmee, FL</i>
12-14-15	<b>Aachen-Born-Heidelberg-Mainz Workshop</b>	<i>Heidelberg, Germany</i>
12-07-15	<b>Gamma Rays and Dark Matter</b>	<i>Obergurgl, Austria</i>
11-23-15	<b>University of California, Berkeley 4D Seminar</b>	<i>Berkeley, CA</i>
11-16-15	<b>Southern Methodist University High-Energy Seminar</b>	<i>Online Seminar</i>
10-27-15	<b>2015 Einstein Fellows Symposium</b>	<i>Boston, MA</i>
10-06-15	<b>Johns Hopkins University Cosmology Seminar</b>	<i>Baltimore, MD</i>
09-24-15	<b>Texas A&amp;M Cosmology Seminar</b>	<i>College Station, TX</i>
09-22-15	<b>University of Illinois, Urbana-Champaign Astronomy Colloquium</b>	<i>Urbana, IL</i>
06-16-15	<b>CETUP 2015</b>	<i>Deadwood, SD</i>
06-02-15	<b>Recontres de Blois</b>	<i>Blois, France</i>
04-29-15	<b>Virginia Tech Center for Neutrino Physics Seminar</b>	<i>Blacksburg, VA</i>
04-24-15	<b>UC, Santa Cruz SCIPP 35th Anniversary Workshop</b>	<i>Santa Cruz, CA</i>
02-05-15	<b>Future Gamma-ray Observatories Workshop</b>	<i>Greenbelt, MD</i>
01-20-15	<b>Ohio State University CCAPP Seminar</b>	<i>Columbus, OH</i>
11-21-14	<b>15 Years of Chandra Symposium</b>	<i>Boston, MA</i>
10-29-14	<b>2014 Einstein Fellows Symposium</b>	<i>Boston, MA</i>
10-24-14	<b>5th International Fermi Symposium</b>	<i>Nagoya, Japan</i>
10-17-14	<b>Hong Kong University High Energy Physics Seminar</b>	<i>Hong Kong, China</i>
10-15-14	<b>Sungkyunkwan University High Energy Physics Seminar</b>	<i>Suwon, South Korea</i>
10-10-14	<b>IBS/MultiDark Dark Matter Workshop</b>	<i>Daejeon, South Korea</i>
08-28-14	<b>Cosmology 2014</b>	<i>Chicago, IL</i>
08-18-14	<b>High Energy Astrophysics Division Meeting 2014</b>	<i>Chicago, IL</i>
07-04-14	<b>International Conference on High Energy Physics</b>	<i>Valencia, Spain</i>
06-27-14	<b>TeVPA 2014</b>	<i>Amsterdam, Netherlands</i>
06-16-14	<b>University of Illinois, Urbana-Champaign TASC Seminar</b>	<i>Urbana, IL</i>

05-22-14	<b>2014 Sackler Symposium</b>	<i>Boston, MA</i>
05-13-14	<b>Latest Results in Dark Matter Searches</b>	<i>Stockholm, Sweden</i>
04-15-14	<b>Notre Dame High Energy Physics Seminar</b>	<i>South Bend, IN</i>
04-14-14	<b>University of Chicago High-Energy Physics Seminar</b>	<i>Chicago, IL</i>
04-08-14	<b>University of Chicago NSF Site Visit</b>	<i>Chicago, IL</i>
03-13-14	<b>KICP Executive Advisory Board Meeting</b>	<i>Chicago, IL</i>
03-10-14	<b>Fermilab Theory Seminar</b>	<i>Batavia, IL</i>
02-27-14	<b>Dark Matter 2014</b>	<i>Los Angeles, CA</i>
02-18-14	<b>University of Wisconsin, Madison High Energy Physics Seminar</b>	<i>Madison, WI</i>
11-15-13	<b>Kavli Institute for Cosmological Physics Postdoc Symposium</b>	<i>Chicago, IL</i>
10-04-13	<b>IAU 303: The Galactic Center</b>	<i>Santa Fe, NM</i>
07-17-13	<b>Probes of Dark Matter on Galaxy Scales</b>	<i>Monterey, CA</i>
05-14-13	<b>Kavli Institute for Theoretical Physics Dark Matter Workshop</b>	<i>Santa Barbara, CA</i>
04-27-13	<b>New Directions in Nuclear/Particle Physics and Cosmology</b>	<i>Asilomar, CA</i>
04-22-13	<b>University of California, Santa Cruz Cosmology Club</b>	<i>Santa Cruz, CA</i>
03-06-13	<b>Cosmic Frontiers / SNOMASS Workshop</b>	<i>Palo Alto, CA</i>
01-30-13	<b>Closing in on Dark Matter Workshop</b>	<i>Aspen, CA</i>
12-05-12	<b>McGill Astrophysics Seminar</b>	<i>Montreal, Canada</i>
11-16-12	<b>Kavli Institute of Cosmological Physics Seminar</b>	<i>Chicago, IL</i>
11-12-12	<b>Fermilab Astroparticle Seminar</b>	<i>Batavia, IL</i>
11-08-12	<b>Northwestern CIERA Seminar</b>	<i>Evanston, IL</i>
11-02-12	<b>4th International Fermi Symposium</b>	<i>Monterey, CA</i>
10-12-12	<b>Caltech TAPIR Seminar</b>	<i>Pasadena, CA</i>
10-10-12	<b>Irvine High Energy Astrophysics Seminar</b>	<i>Irvine, CA</i>
07-24-12	<b>Identification of Dark Matter</b>	<i>Chicago, IL</i>
05-22-12	<b>UC, Santa Cruz High Energy Physics Seminar</b>	<i>Santa Cruz, CA</i>
05-07-12	<b>Dark Matter Signatures in the Gamma-Ray Sky</b>	<i>Austin, TX</i>
03-05-12	<b>Pan-American Study Institute</b>	<i>Buenos Aires, Argentina</i>
08-04-11	<b>TeVPA 2011</b>	<i>Stockholm, Sweden</i>
07-13-11	<b>BeXRB 2011</b>	<i>Valencia, Spain</i>
06-30-11	<b>Fermilab Cross-Talk</b>	<i>Batavia, IL</i>
05-10-11	<b>3rd International Fermi Symposium</b>	<i>Rome, Italy</i>
03-08-11	<b>ESA Compact Binaries Conference</b>	<i>Vina del Mar, Chile</i>
07-26-10	<b>Identification of Dark Matter 2010</b>	<i>Montpellier, France</i>
04-21-10	<b>UC, Santa Cruz Cosmology Club</b>	<i>Santa Cruz, CA</i>
04-13-10	<b>Caltech TAPIR Seminar</b>	<i>Pasadena, CA</i>
03-03-10	<b>High Energy Astrophysics Division 2010</b>	<i>Waikoloa, HI</i>
11-13-09	<b>California APS Meeting</b>	<i>Monterey, CA</i>
10-13-09	<b>Inagural CCAPP Symposium</b>	<i>Columbus, OH</i>
10-09-09	<b>Northwestern University Astrophysics Seminar</b>	<i>Evanston, IL</i>
09-23-09	<b>Dark Matter and the Interstellar Medium</b>	<i>Batavia, IL</i>
04-26-08	<b>Chicago Area Undergraduate Research Seminar</b>	<i>Chicago, IL</i>