

# Philip (Flip) Tanedo

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CONTACT INFORMATION	3054 Physics Building University of California Riverside, CA 92521, USA	951 827 6168 x26168 flip.tanedo@ucr.edu physics.ucr.edu/flip/
RESEARCH INTERESTS	My research focuses on models of dark matter and electroweak symmetry breaking and their phenomenology at high-energy colliders and astro-particle experiments.	
EMPLOYMENT	<b>University of California, Riverside</b> Assistant Professor, Department of Physics & Astronomy	2016 –
	<b>University of California, Irvine</b> Postdoctoral Scholar, Chancellor's ADVANCE Postdoctoral Fellow	2013 – 2016
EDUCATION	<b>Cornell University</b> , Ithaca, New York <i>Doctor of Philosophy (2013), Master of Science (2010)</i> Advisor: Csaba Csáki	2008 – 2013
	<b>Durham University</b> (Josephine Butler College), Durham, UK <i>Master of Science by Research</i>	2007 – 2008
	<b>Cambridge University</b> (Trinity College), Cambridge, UK <i>Master of Advanced Study in Mathematics with Merit</i>	2006 – 2007
	<b>Stanford University</b> , Stanford, California <i>Bachelor of Science in Physics and Mathematics with Honors and Distinction</i>	2002 – 2006
FELLOWSHIPS & HONORS	UCI Chancellor's ADVANCE Postdoctoral Fellowship	2014 – 2015
	Ford Foundation Dissertation Fellowship, Honorable Mention	2012
	Paul & Daisy Soros Fellowship for New Americans	2010 – 2012
	Ford Foundation Predoctoral Fellowship, Honorable Mention	2010
	National Science Foundation Graduate Research Fellowship	2006 – 2011
	Marshall Scholarship	2006 – 2008
	Barry M. Goldwater Scholarship	2005 – 2006
PUBLICATIONS	“Neutron stars at the dark matter direct detection frontier,” N. Raj, P. Tanedo and H. B. Yu, <a href="#">arXiv:1707.09442 [hep-ph]</a> , <i>Submitted to Phys. Rev. Lett.</i>	
	“Dark Photons from Captured Inelastic Dark Matter Annihilation: Charged Particle Signatures,” J. Smolinsky and P. Tanedo, <i>Phys. Rev. D</i> <b>95</b> no.7, 075015 (2017) <a href="#">arXiv:1701.03168 [hep-ph]</a> .	
	“Dark Matter Interpretation of the Fermi-LAT Observation Toward the Galactic Center,” C. Karwin, S. Murgia, T. M. P. Tait, T. A. Porter and P. Tanedo, <i>Phys. Rev. D</i> <b>95</b> , no. 10, 103005 (2017) <a href="#">arXiv:1612.05687 [hep-ph]</a> .	
	“Lepton-Flavor Violating Mediators,” I. Galon, A. Kwa and P. Tanedo, <i>JHEP</i> <b>1703</b> , 064 (2017) <a href="#">arXiv:1610.08060 [hep-ph]</a> .	
	“Dark Sectors 2016:Community Report,” J. Alexander <i>et al.</i> , <a href="#">arXiv:1608.08632 [hep-ph]</a> .	
	“Particle Physics Models for the 17 MeV Anomaly in Beryllium Nuclear Decays,” J. L. Feng, B. Fornal, I. Galon, S. Gardner, J. Smolinsky, T. M. P. Tait and P. Tanedo, <i>Phys. Rev. D</i> <b>95</b> , no. 3, 035017 (2017) <a href="#">arXiv:1608.03591 [hep-ph]</a> .	
	“Protophobic Fifth-Force Interpretation of the Observed Anomaly in $^8\text{Be}$ Nuclear Transitions,” J. L. Feng, B. Fornal, I. Galon, S. Gardner, J. Smolinsky, T. M. P. Tait and P. Tanedo, <i>Phys. Rev. Lett.</i> <b>117</b> , no. 7, 071803 (2016) <a href="#">arXiv:1604.07411 [hep-ph]</a> .	
	“Kaluza-Klein gluons at 100 TeV: NLO corrections,” B. Lillard, T. M. P. Tait and P. Tanedo, <i>Phys. Rev. D</i> <b>94</b> , no. 5, 054012 (2016) <a href="#">arXiv:1602.08622 [hep-ph]</a> .	

- “Detecting dark matter through dark photons from the Sun: Charged particle signatures,” J. L. Feng, J. Smolinsky and P. Tanedo, Phys. Rev. D **93**, 115036 (2016) [arXiv:1602.01465 \[hep-ph\]](#).
- “Limiting SUSY compressed spectra scenarios,” A. Nelson, P. Tanedo and D. Whiteson, Phys. Rev. D **93**, 115029 (2016) [arXiv:1509.08485 \[hep-ex\]](#).
- “Dark Photons from the Center of the Earth: Smoking-Gun Signals of Dark Matter,” J. L. Feng, J. Smolinsky and P. Tanedo, Phys. Rev. D **93**, 015014 (2016) [arXiv:1509.07525 \[hep-ph\]](#).
- “On-Shell Mediators and Top-Charm Dark Matter Models for the Fermi Galactic Center Excess,” A. Rajaraman, J. Smolinsky and P. Tanedo, [arXiv:1503.05919 \[hep-ph\]](#); *submitted to Phys. Rev. D*
- “2013 ESHEP lectures on Beyond the Standard Model,” C. Csáki and P. Tanedo, Proceedings of the 2013 European School of High-Energy Physics, Parádörd, Hungary, 5–18 June 2013, edited by M. Mulders and G. Perez, CERN–2015–004 (CERN, Geneva, 2015), ISBN: 9789290834205.
- “Dynamics of 3D SUSY Gauge Theories with Antisymmetric Matter,” C. Csáki, M. Martone, Y. Shirman, P. Tanedo and J. Terning, JHEP **1408**, 141 (2014) [arXiv:1406.6684 \[hep-th\]](#)
- “Hidden On-Shell Mediators for the Galactic Center  $\gamma$ -Ray Excess,” M. Abdullah, A. DiFranzo, A. Rajaraman, T. Tait, P. Tanedo and A. Wijangco, Phys. Rev. D **90**, 035004 (2014) [arXiv:1404.6528 \[hep-ph\]](#)
- “Effective theory of self-interacting dark matter,” B. Bellazzini, M. Cliche and P. Tanedo, Phys. Rev. D **88**, 083506 (2013) [arXiv:1307.1129](#)
- “The Same-Sign Dilepton Signature of RPV/MFV SUSY,” J. Berger, M. Perelstein, M. Saelim and P. Tanedo, JHEP **1304**, 077 (2013) [arXiv:1302.2146 \[hep-ph\]](#)
- “Fundamental Physics at the Intensity Frontier,” J. L. Hewett, H. Weerts, R. Brock, J. N. Butler, B. C. K. Casey, J. Collar, A. de Gouvea and R. Essig *et al.*, [arXiv:1205.2671 \[hep-ex\]](#)
- “The Birds and the Bs in RS: The  $b \rightarrow s\gamma$  penguin in a warped extra dimension,” M. Blanke, B. Shakya, P. Tanedo and Y. Tsai, JHEP **1208**, 038 (2012) [arXiv:1203.6650 \[hep-ph\]](#)
- “SUSY\_FLAVOR v2: A Computational tool for FCNC and CP-violating processes in the MSSM,” A. Crivellin, J. Rosiek, P. H. Chankowski, A. Dedes, S. Jaeger and P. Tanedo, Comput. Phys. Commun. **184**, 1004 (2013) [arXiv:1203.5023 \[hep-ph\]](#)
- “Goldstone Fermion Dark Matter,” B. Bellazzini, C. Csaki, J. Hubisz, J. Shao and P. Tanedo, JHEP **1109**, 035 (2011) [arXiv:1106.2162 \[hep-ph\]](#)
- “Warped penguin diagrams,” C. Csaki, Y. Grossman, P. Tanedo and Y. Tsai, Phys. Rev. D **83**, 073002 (2011) [arXiv:1004.2037 \[hep-ph\]](#)
- “SUSY\_FLAVOR: A Computational Tool for FCNC and CP-Violating Processes in the MSSM,” J. Rosiek, P. Chankowski, A. Dedes, S. Jager and P. Tanedo, Comput. Phys. Commun. **181**, 2180 (2010) [arXiv:1003.4260 \[hep-ph\]](#)
- “Complete one-loop predictions for  $B_s \rightarrow \ell^+ \ell'^-$  in the MSSM,” A. Dedes, J. Rosiek and P. Tanedo, Phys. Rev. D **79**, 055006 (2009) [arXiv:0812.4320 \[hep-ph\]](#)

CONFERENCE  
TALKS & INVITED  
SEMINARS

- “*Light mediators and terrestrial dark matter capture*”  
New Directions in Dark Matter and Neutrino Physics,  
Invited Talk, Perimeter Institute, Waterloo, CA Jul. 2017
- “*Models, Exotic Signatures and Proposed Searches*”  
XI International Conference on the Interconnection between Particle Physics and Cosmology,  
Invited Plenary Talk, Corpus Christi, TX May 2017
- “*Composite Higgs, Composite Mediators*”  
DM at LHC, UC Irvine, CA Apr. 2017
- “*New Physics in Nuclear Transitions? The 17 MeV Anomaly in  $^8\text{Be}$* ”  
Focus Workshop on Particle Physics and Cosmology, CTPU-IBS, Daejeon City, Korea Dec. 2016  
Beyond the Standard Model Workshop, MCTP, Ann Arbor, MI Oct. 2016  
LHC Awakens: A New Energy Frontier, Aspen Center for Physics Aspen, CO Sep. 2016

Latin American Webinars on Physics, Google Hangouts on the Air (webcast)	Sep. 2016
LHC Run II Workshop, Santa Fe, NM	July. 2016
Cornell Particle Theory Seminar, Ithaca, NY	May. 2016
UMD Particle Theory Seminar, College Park, MD	May. 2016
UC Davis Theory Lunch, Davis, CA	May. 2016
SLAC Dark Sectors 2016 Workshop, Menlo Park, CA	April. 2016
<i>“Dark Sunshine”</i>	
Cal State Fullerton Physics Colloquium, Fullerton, CA	Mar. 2016
CSU Long Beach, Physics Colloquium, Long Beach, CA	Mar. 2016
<i>“Dark Photons from the Center of the Earth”</i>	
UC Davis Theory Seminar, Davis, CA	May. 2016
PIKIO Workshop, Cincinnati, OH	Feb. 2016
MCTP Brown Bag Seminar, Ann Arbor, MI	Feb. 2016
SLAC Theory Seminar, Menlo Park, CA	Feb. 2016
UC Riverside Theory Seminar, Riverside, CA	Dec. 2015
TRIUMF Theory Seminar, Vancouver, Canada	Dec. 2015
UC Santa Barbara HEP Experiment & Phenomenology Seminar	Sep. 2015
New Directions to Shed Light on Dark Matter, Aspen, CO	Sep. 2015
SUSY 2015: 23rd Conference on SUSY & Unification, Lake Tahoe, CA	Aug. 2015
Anticipating 14 TeV: Insights from the LHC & Beyond, Munich, Germany	Jul. 2015
<i>“On-Shell Mediators” / “Heavy, Hidden Hooperon”</i>	
Fermilab HEP Theory Seminar, Batavia, IL	Dec. 2015
UC Davis HEFTI Seminar	Mar. 2015
Santa Cruz Institute for Particle Physics Theory Seminar, UC Santa Cruz	Mar. 2015
Santa Fe Summer Workshop: LHC After the Higgs, Santa Fe, NM	Jul. 2014
UCLA HEP Theory Seminar, Los Angeles, CA	Jun. 2014
UC Riverside High Energy Physics Seminar	May 2014
SLAC Theory Seminar, Menlo Park, CA	May 2014
Berkeley Center for Theoretical Physics Seminar	May 2014
<i>“Charged Lepton Flavor Violation in RS”</i>	
International Workshop for Charged Lepton Flavor Violation, Irvine, CA	May 2014
<i>“Stealthy Composite Stops”</i>	
Perimeter Institute Particle Physics Seminar, Waterloo, Canada	Nov. 2012
<i>“Goldstone Fermion Dark Matter”</i>	
UC Davis HEFTI Seminar	Oct. 2012
Harvard Particle Theory Seminar	Feb. 2012
UC Irvine Joint Particle Seminar	Jan. 2012
Cornell Theory Group Seminar	Sep. 2011
<i>“The Birds and the Bs in RS”</i>	
Phenomenology 2012 Symposium, Pittsburgh, PA	May 2012
<i>“RS @ LHC”</i>	
Cornell CMS Future Directions Workshop, Ithaca, NY	Jan. 2012
<i>“Goldstone Fermion Dark Matter”</i>	
SUSY 2011: 19th Conference on SUSY & Unification, Fermilab	Aug. 2011
<i>“Flight of the Warped Penguins”</i>	
Phenomenology 2011 Symposium, Madison, WI	May 2011
Cornell Particle Theory Lunch Seminar	Feb. 2011
Maryland Theory Seminar	Mar. 2011
DAMTP–Cavendish Phenomenology Seminar, Cambridge, UK	Feb. 2011
<i>“The Birds and the Bs: <math>B_s \rightarrow \mu\mu</math> in the MSSM”</i>	
Theoretical Advanced Study Institute, Boulder, CO	Jun. 2009
Cornell Particle Theory Lunch Seminar	Feb. 2009
IOP HEPP: Beauty Physics in the UK, Lancaster, UK	Nov. 2008

U. Ioannina Div. Theoretical Physics Journal Club, Greece	Oct. 2008
LHCb UK Meeting, Durham, UK	Dec. 2007

# ORGANIZED ACTIVITIES

Southern California Beyond the Standard Model, UCR, Riverisde, CA	
Main workshop organizer, the first in a series of workshops to better connect the Southern California particle physics community. The workshop was well received and we are currently planning the next workshop at UCLA with the intent of making this an annual tradition.	Apr. 2017

# WORKSHOPS & CONFERENCES

New Directions in Dark Matter and Neutrino Physics, Perimeter Institute, Waterloo, CA	Jul. 2017
XI International Conference on Particle Physics and Cosmology, Corpus Christi, TX	May 2017
Dark Matter at LHC, UCI, Irvine, CA	Apr. 2017
Dark Matter at LHC, UCI, Irvine, CA	Apr. 2017
Southern California Beyond the Standard Model (organizer), UCR, Riverside, CA	Apr. 2017
Focus Workshop on Particle Physics and Cosmology, MCTP, Ann Arbor, CTPU-IBS, Korea	Dec. 2016
Beyond the Standard Model Workshop, MCTP, Ann Arbor, MI	Oct. 2016
The LHC Awakens, Aspen Center for Physics, Aspen, CO	Aug. 2016
Santa Fe Summer Workshop: LHC Run II, Santa Fe, NM	Jul. 2016
New Accelerators for the 21st Century, KITP, Santa Barbara CA	Jun. 2016
SLAC Dark Sectors 2016 Workshop, Menlo Park, CA	Apr. 2016
PIKIO Workshop, Cincinnati, OH	Feb. 2016
UCLA Dark Matter 2016, Westwood, CA	Feb. 2016
Science Hack Day: San Francisco, CA	Oct. 2015
UCI Data Science Initiative: Predictive Modeling in Python, Irvine, CA	Oct. 2015
UC PPFP Fall Conference, Oakland, CA	Sep. 2015
New Directions to Shed Light on Dark Matter, Aspen Center for Physics, Aspen, CO	Sep. 2015
Supersymmetry 2015, Lake Tahoe, CA	Aug. 2015
MIAPP: Anticipating 14 TeV, Munich, Germany	Jul. 2014
UC PPFP Academic Retreat, Lake Arrowhead, CA	Apr. 2015
UCI Data Science Initiative: Software Carpentry	Feb. 2015
UC PPFP 30th Anniversary Meeting, Berkeley, CA	Oct. 2014
Model Building in the LHC Era, Aspen Center for Physics	Aug. 2014
Santa Fe 2014 Summer Workshop, Santa Fe, NM	Jul. 2014
SLAC Workshop on Physics at a 100 TeV Collider, Menlo Park, CA	Apr. 2014
Dark Matter in Southern California III Symposium, Pasadena, CA	Apr. 2014
Dark Matter in Southern California II Symposium, Pasadena, CA	Sep. 2013
TeV Particle Astrophysics, Irvine, CA	Aug. 2013
Prospects in Theoretical Physics, Princeton, NJ	Jul. 2013
Communicating Science 2013, Cambridge, MA	Jun. 2013
Phenomenology 2012 Symposium, Pittsburgh, PA	May 2012
Fundamental Physics at the Intensity Frontier, Rockville, MD	Dec. 2011
Soros Fellowship for New Americans Fall Conference, OSI, New York	Oct. 2011
Supersymmetry 2011, Fermilab, Batavia, IL	Sep. 2011
First Year of the LHC, KITP, Santa Barbara, CA	Aug. 2011
SUSY Breaking '11, CERN, Geneva, Switzerland	May 2011
Phenomenology 2011 Symposium, Madison, WI	May 2011
Soros Fellowship for New Americans Fall Conference, OSI, New York	Oct. 2010
Emerging problems in particle phenomenology, ITS at CUNY	Apr. 2010
Theoretical Advanced Studies Institute, University of Colorado at Boulder	Jun 2009
International Workshop on SUSY Breaking, Durham University IPPP	Apr. 2009

Young Researchers in Mathematics (Beyond Part III), Cambridge University	Apr. 2009
ICTP School on the Gauge/Gravity Correspondence, Trieste	May 2008
Marshall Colloquium, Association of Commonwealth Universities, London, UK,	May 2008
5th Part III Return Conference, Cambridge University	Apr. 2008
IOP HEPP Group Annual Meeting, University of Lancaster	Apr. 2008
Higgs–Maxwell Workshop: EWSB, Royal Society of Edinburgh	Feb. 2008
Young Experimentalists and Theorists Institute, Durham University IPPP	Jan. 2008
IPPP Annual Theory Meeting, Durham University	Dec. 2007
UK LHCb Annual Meeting, Durham University IPPP	Dec. 2007
Cosener’s Forum on Heavy Flavor Physics, Cosener’s House, Abingdon, UK	Jun. 2007

#### TEACHING

<b>UC Riverside</b> , Riverside, CA	
<i>Lecturer</i> , Physics 231: Methods in Theoretical Physics	Fall 2016
<i>Lecturer</i> , Physics 208: General Relativity	Winter 2017
<i>Lecturer</i> , Physics 177: Computational Methods for Physical Sciences	Spring 2017
<b>Cornell University</b> , Ithaca, NY	
<i>Teaching Assistant</i> , Physics 3318: Analytical Mechanics	Spring 2013
<i>Teaching Assistant</i> , Physics 3327: Advanced Electricity & Magnetism	Fall 2012
<i>Course Grader</i> , Physics 7651: Quantum Field Theory I	Fall 2011
<b>UC Berkeley</b> , Berkeley, CA	
<i>Course Grader</i> , Physics 137A: Quantum Mechanics	Summer 2006
<b>Stanford University</b> , Stanford, CA	
<i>Teaching Assistant</i> , Physics 121: Electrodynamics II	Spring 2006
<i>Course Grader</i> , Physics 161: Cosmology	Spring 2006
<i>Course Assistant</i> , The Elementary Particles and their Fundamental Interactions	Summer 2004

#### RECENT PRESS

“Protophobic Fifth-Force Interpretation of the Observed Anomaly in $^8\text{Be}$ ,” Physical Review Letters; Altmetric attention score <sup>1</sup> : 977	Aug. 2016
“Nuclear Puzzle May Be Clue to Fifth Force”, Sean Nelson UCR <i>Today</i>	August 17, 2016
Featured on <a href="http://pinoyscientists.com">pinoyscientists.com</a> (Filipino Scientists)	June 2016
“One Higgs is the loneliest number”, Katie Elyce Jones, <i>Symmetry Magazine</i>	July 30, 2015
“Hard times for theorists in a post-Higgs world”, Andrew Grant, <i>Science News</i>	June 13, 2013

#### SERVICE

<b>Referee:</b> <i>Physics Review D</i> (APS)	2014, 2015
<b>Referee:</b> <i>European Physical Journal C</i> (Springer)	2014
<b>Referee:</b> <i>Physics of the Dark Universe</i> (Elsevier)	2013, 2015
<b>Referee:</b> <i>Annals of Physics</i> (Elsevier)	2013
<b>Referee:</b> <i>Europhysics Letters</i> (EPS)	2012

#### OUTREACH

<b>Mentor:</b> UCR GradEdge/JumpStart program for incoming graduate students	2017
<b>Mentor:</b> Paul & Daisy Soros Fellowship for New Americans	2017 –
<b>Organizer:</b> UCR Physics Hack Day	2016 –
<b>Organizer:</b> UCR Physics & Astronomy Open House	2016 –
<b>Organizer:</b> Physical & Natural Science Book Club (Cellar Door Bookstore)	2016 –
<b>Organizer:</b> UCR Physics & Astronomy Open House	2016 –
<b>Science Ambassador:</b> Science Hack Day San Francisco	2015
One of six invited scientists sponsored by Gordon & Betty Moore Foundation	

<sup>1</sup>Top 5% of all research outputs, #5 output from Phys. Rev. Lett., 99th percentile for outputs of the same age and source; <http://aps.altmetric.com/details/6976772>

<b>Blogger, organizer:</b> ParticleBites, a research digest	2013 –
<b>Blogger:</b> US/LHC Blogs (Quantum Diaries), public outreach blog	2009 – 2012
<b>Lecturer:</b> Particle Physics for Undergrads (Cornell undergraduate research program)	2012
<b>Lecturer:</b> Stanford ESP SPLASH! and SHEP high school courses on particle physics	2005

OUTREACH TALKS  
& PANELS

“ <i>Quantum Electrodynamics with Feynman Diagrams</i> ” UCR Summer Physics Teacher Academy	June 2017
“ <i>Applying to Graduate School</i> ” UCR Society of Physics Students	May 2017
“ <i>Data vs. Dark Matter: Opportunities for Open Science in Particle Physics</i> ” Science Hack Day, San Francisco (Gordon & Betty Moore Science Ambassador)	Oct. 2015
“ <i>Balancing writing your dissertation and finding a postdoc position</i> ” Panelist, UCI Graduate Division & ADVACE Program	Nov. 2014
“ <i>Here be dragons: [fairy] tales from beyond the Standard Model</i> ” Cornell Society of Physics Students	Apr. 2013
“ <i>The Physics of Angels &amp; Demons</i> ” Cornell Institute for Physics Teachers	Jul. 2009
“ <i>Applying for Graduate Fellowships Information Session</i> ” Panelist, Cornell Physics Department	Oct. 2008
“ <i>Quantum penguins hint at the nature of matter and antimatter</i> ” Marshall Aid Commemoration Commission Colloquium, London, UK	May 2008