

Curriculum Vitae

Alex Drlica-Wagner

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Contact Information

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Academic History

2013 *Ph.D., Physics*
 Stanford University
 Stanford, CA
 Doctoral Thesis: *Searching for Dwarf Spheroidal Galaxies and other Galactic Dark Matter Substructures with the Fermi Large Area Telescope*

2008 *B.A., Physics*
 Washington University in St. Louis
 St. Louis, MO
 Honors Thesis: *Simulations of Next-Generation Space-Based Gamma-Ray Telescopes*

Employment History

2013–present Schramm Fellow in Experimental Particle Astrophysics
 Fermi National Accelerator Laboratory
 Batavia, IL

2009–2013 Research Associate
 SLAC National Accelerator Laboratory
 Menlo Park, CA

2008 Research Associate
 Stanford University
 Stanford, CA

2007–2008 Research Associate
 Washington University in St. Louis
 St. Louis, MO

2006 Research Associate
 Public Health Research Institute
 Newark, NJ

Research Interests

Near-field Cosmology

- Understanding the local dark matter distribution
- Discovery and characterization of Milky Way satellite galaxies
- Testing Λ CDM on small scales

Searches for Dark Matter

- Indirect searches for dark matter in dwarf spheroidal galaxies
- Indirect searches for dark matter in Galactic substructure
- Theory and simulation of Galactic dark matter structure and substructure

Gamma-ray Astrophysics

- Unassociated high-latitude gamma-ray sources
- Fermi-LAT instrument performance and background rejection
- Next-generation gamma-ray telescope instrumentation and development
- Machine learning applied to gamma-ray event selection

Honors and Awards

2013–present	<i>Schramm Fellow in Experimental Particle Astrophysics</i> Fermilab Center for Particle Astrophysics & Fermi National Accelerator Laboratory
2012–2013	<i>Paul Giddings Graduate Fellow</i> Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Laboratory & Stanford University
2012–2013	<i>APS Student Travel Awards (DPF & DAP)</i>
2012	<i>62nd Lindau Meeting of Noble Laureates</i> United States Representative for the Department of Energy Joachim Herz Stiftung Fellow
2010–2013	<i>Department of Energy Office of Science Graduate Fellow</i>
2008	<i>Senior Physics Prize for Outstanding Performance</i> Washington University in St. Louis
2007	<i>Greg Delos Undergraduate Fellow</i> Washington University in St. Louis
2004-2008	<i>Dieckmann Scholarship</i> Washington University in St. Louis

Professional Service and Public Outreach

2013–present	Journal Club Organizer Fermilab Center for Particle Astrophysics
2013–present	Contributing Author Dark Energy Detectives: http://darkenergydetectives.org/
2013–2014	Alumni Panelist Department of Energy Office of Science Graduate Fellowship Program

2012–2013	Astrophysics Colloquium Graduate Student Coordinator Kavli Institute for Particle Astrophysics and Cosmology
2012	Public Tour Guide SLAC National Accelerator Laboratory
2012	Visualization Laboratory Operator Kavli Institute for Particle Astrophysics and Cosmology
2011–2012	Principal Organizer SLAC Association for Student Seminars
2011	Stanford Undergraduate Research Co-Mentor
2010	SLAC Kids' Day Volunteer
2010–2011	Principal Organizer Meeting of Astrophysics Students at Stanford
2005–2008	Public Observatory Operator Crow Observatory, Washington University
2005	Public Tour Guide American Museum of Natural History

Selected Invited Talks

“Searching for Dark Matter with the Fermi Large Area Telescope”
University of Chicago High Energy Physics Seminar, Chicago IL, March 2014.

“Searches for Dark Matter Annihilation in Dwarf Spheroidal Galaxies with the Fermi-LAT”
Invited talk at the 11th UCLA Dark Matter Conference, Los Angeles CA, February 2014.

“Recent Results from Indirect Searches for Dark Matter”
Invited talk at the April APS Meeting, Denver CO, April 2013.

“Indirect Searches for Dark Matter with the Fermi LAT”
Invited talk at the Aspen Center for Physics, Aspen CO, January 2013.

“Searching for Dwarf Spheroidal Galaxies with the Fermi-LAT”
Invited talk at the 4th Fermi Symposium, Monterey CA, November 2012.

“Searches for Dark Matter with the Fermi-LAT”
Invited talk at the SLAC Summer Institute, Stanford CA, July 2011.

“The Mystery of Missing Mass”
Invited talk at the Public Health Research Institute, Newark NJ, December 2009.

Selected Publications

I have highlight those Fermi-LAT Collaboration publications in which I was heavily involved (led analysis components and/or writing). Please refer to the Fermi-LAT Collaboration publication policy for more details: <http://www-glast.stanford.edu/policy-letter.pdf>

Conference Proceedings

Fermi-LAT Collaboration, *Pass 8: Toward the Full Realization of the Fermi-LAT Scientific Potential*, in *4th Fermi Symposium*, October, 2012.

A. Drlica-Wagner, *Constraints on Dark Matter and Supersymmetry from LAT Observations of Dwarf Galaxies*, in *47th Recontres de Moriond*, March, 2012.

A. Drlica-Wagner, *Searches for Galactic Dark Matter Substructure with the Fermi LAT*, in *10th UCLA Dark Matter Conference*, February, 2012.

A. Drlica-Wagner, P. Wang, L. Strigari, and E. Bloom, *Search for Unknown Dark Matter Satellites of the Milky Way*, in *3rd Fermi Symposium*, May, 2011.

A. Drlica-Wagner and E. Charles, *Using TMine for the Fermi-LAT Event Analysis*, in *3rd Fermi Symposium*, May, 2011.

Fermi-LAT Collaboration

A. Drlica-Wagner, G. A. Gomez-Vargas, J. W. Hewitt, T. Linden, and L. Tibaldo, *Searching for Dark Matter Annihilation in the Smith High-Velocity Cloud*, *ApJ* **790** (2014) 24, [arXiv:1405.1030].

CORRESPONDING AUTHOR; CATEGORY II PAPER.

Fermi-LAT Collaboration, *Dark Matter Constraints from Observations of 25 Milky Way Satellite Galaxies with the Fermi Large Area Telescope*, *Phys. Rev.* **D89** (2014) 042001, [arXiv:1310.0828].

CORRESPONDING AUTHOR; CATEGORY I PAPER.

M. Cahill-Rowley, R. Cotta, **A. Drlica-Wagner**, S. Funk, J. Hewett, *et. al.*, *Complementarity and Searches for Dark Matter in the pMSSM*, arXiv:1305.6921. **CATEGORY II PAPER.**

Fermi-LAT Collaboration, *Search for Dark Matter Satellites using the Fermi-LAT*, *ApJ* **747** (2012) 121, [arXiv:1201.2691]. **CORRESPONDING AUTHOR; CATEGORY I PAPER.**

R. Cotta, **A. Drlica-Wagner**, S. Murgia, E. Bloom, J. Hewett, *et. al.*, *Constraints on the pMSSM from LAT observations of dwarf spheroidal galaxies*, *JCAP* **1204** (2012) 016, [arXiv:1111.2604].

CORRESPONDING AUTHOR; CATEGORY II PAPER.

Fermi-LAT Collaboration, *Constraining Dark Matter Models from a Combined Analysis of Milky Way Satellites with the Fermi Large Area Telescope*, *Phys. Rev. Lett.* **107** (2011) 241302, [arXiv:1108.3546].

ANALYSIS LEAD; CATEGORY I PAPER.

Co-author on 41 additional Fermi-LAT Collaboration publications.

X-ray Observational Cosmology

A. Mantz, S. Allen, H. Ebeling, D. Rapetti, and **A. Drlica-Wagner**, *The Observed Growth of Massive Galaxy Clusters II: X-ray Scaling Relations*, *MNRAS* **406** (2010) 1773–1795, [arXiv:0909.3099].

Antibiotic Resistance

- B. Shopsin, **A. Drlica-Wagner**, B. Mathema, R. Adhikari, B. Kreiswirth, and R. Novick, *Prevalence of agr dysfunction among colonizing staphylococcus aureus strains.*, J. Infect. Dis. **198 (8)** (2008) 1171–1174.
- X. Zhao, M. Malik, N. Chan, **A. Drlica-Wagner**, J.-Y. Wang, X. Li, and K. Drlica, *Lethal action of quinolones with a temperature-sensitive dnab replication mutant of escherichia coli.*, Antimicrob. Agents Chemother. **50** (2006) 362–364.
- T. Lu, X. Zhao, X. Li, **A. Drlica-Wagner**, J. Domagala, and K. Drlica, *Enhancement of fluoroquinolone activity by c-8 halogen and methoxy moieties: action against a gyrase resistance mutant of mycobacterium smegmatis and a double mutant of staphylococcus aureus.*, Antimicrob. Agents Chemother. **45** (2001) 2703–2709.
- T. Lu, M. Malik, and **A. Drlica-Wagner**, *C-8-methoxy fluoroquinolones.*, Research Advances in Antimicrob. Agents Chemother. **2** (2001) 29–42.