Matthew D. Kistler | PhD

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e-mail for phone #

EXPERIENCE Working with start-ups & researchers to win highly-competitive national/ multinational funding calls in quantum computing and other deep-tech areas including semiconductors, advanced imaging, cryogenics, & photonics. Wins across EIC Accelerator, Transition, Pathfinder, & RIA Collaborative projects. Discovered and solved complex, ambiguous problems in Particle/Nuclear/Astro Physics both individually and leading/within teams of various size including a wide variety of collaborators. Have produced more than 30 research papers covering a diverse range of topics throughout multiple areas of physics. Finished projects on schedule, with high attention to detail, in rapidly changing fields. More than 15 years experience using Mathematica and some C++ & python. Experienced in the communication & explanation of complex scientific concepts and quantitative research results, presenting \sim 50 seminar/conference talks to both broad and specialist audiences. **EDUCATION** The Ohio State University, Columbus, Ohio USA Ph.D. Physics, Advisor: Prof. John F. Beacom, June 2010 Thesis: The Theory and Phenomenology of the High-Energy and Transient Universe University of Florida, Gainesville, Florida USA B.S. Physics, B.S. Mathematics, May 2004 POSITIONS Senior Innovation Consultant 2022 -Self-employed 2020 -2018 to 2020 Caregiver (hospice care for family member) KIPAC Research Associate, Stanford University & SLAC National Accelerator Laboratory 2015 to 2017 KIPAC Postdoctoral Fellow, Stanford University & SLAC National Accelerator Laboratory 2013 to 2015 Affiliate Scientist, Lawrence Berkeley National Laboratory 2013 to 2018 Einstein Postdoctoral Fellow, Lawrence Berkeley National Laboratory & University of California-Berkeley 2012 to 2013 Einstein Postdoctoral Fellow, California Institute of Technology 2010 to 2011 Visiting Postdoctoral Scholar, University of California-Berkeley & Lawrence Berkeley National Laboratory Fall 2010 Graduate Student, Ohio State University 2004 to 2010

Honors	Einstein Postdoctoral Fellowship	2010 to 2013	
	University Presidential Fellowship, Ohio State University	2009 to 2010	
	Fowler Graduate Fellowship, Ohio State University	2004 to 2006	
	Phi Beta Kappa, University of Florida	2003	
Professional Service	Referee for peer-review journals Astroparticle Physics, Astrophysical Journal, Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society, Physics Letters B, Physical Review D, and Physical Review Letters		
	Multimessenger Astronomy in the Era of PeV Neutrinos, Scientific Organizing Committee, Annapolis, Maryland	Nov. 2014	
PAPER METRICS	2 papers with 400+ citations, 2 with 300-400, 2 with 200-300 with 50-100; >3000 total times cited; $h = 24$	9, 4 with 100-200, 6	
Papers	 Multi-PeV Signals from a New Astrophysical Neutrino Flux Resonance Matthew D. Kistler and Ranjan Laha Physical Review Letters, 120, 241105 (2018) 	Beyond the Glashow	
	 30. Peeking into the Origins of IceCube Neutrinos: I. Buried Tran Rates Matthew D. Kistler and Hasan Yuksel arXiv:1704.00072 	sient TeV Miniburst	
	 Young and Millisecond Pulsar GeV Gamma-ray Fluxes from the Beyond Ryan M. O'Leary, Matthew D. Kistler, Matthew Kerr, and arXiv:1601.05797 	e Galactic Center and I Jason Dexter	
	28. On TeV Gamma Rays and the Search for Galactic Neutrinos Matthew D. Kistler arXiv:1511.05199		
	27. Problems and Prospects from a Flood of Extragalactic TeV Neur Matthew D. Kistler arXiv:1511.01530	trinos in IceCube	
	26. A Tale of Two Pulsars and the Origin of TeV Gamma Rays from Matthew D. Kistler arXiv:1511.01159	1 the Galactic Center	
	25. <i>Gamma Rays, Electrons, Hard X-Rays, and the Central Parsec</i> Matthew D. Kistler arXiv:1511.00723	of the Milky Way	

- 24. *The Cosmic MeV Neutrino Background as a Laboratory for Black Hole Formation* Hasan Yuksel and **Matthew D. Kistler** Physics Letters B, 751, 413 (2015)
- Young Pulsars and the Galactic Center GeV Gamma-ray Excess Ryan M. O'Leary, Matthew D. Kistler, Matthew Kerr, and Jason Dexter arXiv:1504.02477
- 22. Cosmic PeV Neutrinos and the Sources of Ultrahigh Energy Protons Matthew D. Kistler, Todor Stanev, and Hasan Yuksel Physical Review D, 90, 123006 (2014)
- The Cosmic Star Formation Rate from the Faintest Galaxies in the Unobservable Universe
 Matthew D. Kistler, Hasan Yuksel, and Andrew M. Hopkins arXiv:1305.1630
- Tomography of Massive Stars from Core Collapse to Supernova Shock Breakout Matthew D. Kistler, Wick C. Haxton, and Hasan Yuksel Astrophysical Journal, 778, 81 (2013)
- The Impact of Metallicity on the Rate of Type Ia Supernovae Matthew D. Kistler, Krzysztof Z. Stanek, Christopher S. Kochanek, Jose L. Prieto, and Todd A. Thompson Astrophysical Journal, 770, 88 (2013)
- Galactic Streams of Cosmic-Ray Electrons and Positrons Matthew D. Kistler, Hasan Yuksel, and Alexander Friedland arXiv:1210.8180
- The Centaurus A Ultrahigh-Energy Cosmic Ray Excess and the Local Extragalactic Magnetic Field Hasan Yuksel, Todor Stanev, Matthew D. Kistler, and Philipp P. Kronberg Astrophysical Journal, 758, 16 (2012)
- Core-Collapse Astrophysics with a Five-Megaton Neutrino Detector Matthew D. Kistler, Hasan Yuksel, Shin'ichiro Ando, John F. Beacom, and Yoichiro Suzuki Physical Review D, 83, 123008 (2011)
- Gamma-ray Signatures of Annihilation to Charged Leptons in Dark Matter Substructure
 Matthew D. Kistler and Jennifer M. Siegal-Gaskins Physical Review D, 81, 103521 (2010)
- Determining the Escape Fraction of Ionizing Photons During Reionization with the GRB Derived Star-Formation Rate
 Stuart Wyithe, Andrew M. Hopkins, Matthew D. Kistler, Hasan Yuksel, and John F. Beacom
 Monthly Notices of the Royal Astronomical Society, 401, 2561 (2010)

- New Constraints on the Highest-Energy Cosmic-Ray Electrons and Positrons Matthew D. Kistler and Hasan Yuksel arXiv:0912.0264
- 12. A High Rate of White Dwarf–Neutron Star Mergers & Their Transients Todd A. Thompson, **Matthew D. Kistler**, and Krzysztof Z. Stanek arXiv:0912.0009
- The Star Formation Rate in the Reionization Era as Indicated by Gamma-ray Bursts Matthew D. Kistler, Hasan Yuksel, John F. Beacom, Andrew M. Hopkins, and Stuart Wyithe Astrophysical Journal Letters, 705, L104 (2009)
- TeV Gamma Rays from Geminga and the Origin of the GeV Positron Excess Hasan Yuksel, Matthew D. Kistler, and Todor Stanev Physical Review Letters, 103, 051101 (2009)
- A New Class of Luminous Transients and A First Census of Their Massive Stellar Progenitors Todd A. Thompson, Jose L. Prieto, Krzysztof Z. Stanek, Matthew D. Kistler, John F. Beacom, and Christopher S. Kochanek Astrophysical Journal, 705, 1364 (2009)
- 8. *Revealing the High-Redshift Star Formation Rate with Gamma-Ray Bursts* Hasan Yuksel, **Matthew D. Kistler**, John F. Beacom, and Andrew M. Hopkins Astrophysical Journal Letters, 683, L5 (2008)
- Discovery of the Dust-Enshrouded Progenitor of SN 2008S with Spitzer Jose L. Prieto, Matthew D. Kistler, Todd A. Thompson, et al. Astrophysical Journal Letters, 681, L9 (2008)
- A Survey About Nothing: Monitoring a Million Supergiants for Failed Supernovae Christopher S. Kochanek, John F. Beacom, Matthew D. Kistler, Jose L. Prieto, Krzysztof Z. Stanek, Todd A. Thompson, and Hasan Yuksel Astrophysical Journal, 684, 1336 (2008)
- 5. *Circumscribing Late Dark Matter Decays Model Independently* Hasan Yuksel and **Matthew D. Kistler** Physical Review D, 78, 023502 (2008)
- An Unexpectedly Swift Rise in the Gamma-ray Burst Rate Matthew D. Kistler, Hasan Yuksel, John F. Beacom, and Krzysztof Z. Stanek Astrophysical Journal Letters, 673, L119 (2008)
- 3. *Dissecting the Cygnus Region with TeV Gamma Rays and Neutrinos* John F. Beacom and **Matthew D. Kistler** Physical Review D, 75, 083001 (2007)
- 2. Enhanced Cosmological GRB Rates and Implications for Cosmogenic Neutrinos Hasan Yuksel and **Matthew D. Kistler** Physical Review D, 75, 083004 (2007)

	1.	<i>Guaranteed and Prospective Galactic TeV Neutrino Sources</i> Matthew D. Kistler and John F. Beacom Physical Review D, 74, 063007 (2006)
Other Publications	2.	<i>Dusty Massive Stars: the Origin of the Luminous Optical Transient in M85</i> Jose L. Prieto, Matthew D. Kistler , Krzysztof Z. Stanek, et al. The Astronomer's Telegram, 1596 (2008)
	1.	Prospects for Galactic TeV Neutrino Astronomy Matthew D. Kistler J. Phys. Conf. Ser. 60, 211, (2007)
Seminars & Collquia	28.	Cosmic-ray Electrons and Positrons: Local Pulsars and Beyond CNA, May 2022
	27.	<i>Puzzles Arising from the IceCube Neutrino Discovery</i> Michigan State University, February 2017
	26.	<i>Puzzles Arising from the IceCube Neutrino Discovery</i> Stanford/SLAC, September 2016
	25.	<i>Implications of IceCube Neutrino Discoveries for the Origins of Cosmic Rays</i> University of Delaware, August 2016
	24.	<i>Implications of the First High-energy Astrophysical Neutrino Events in IceCube</i> University of Minnesota, October 2014
	23.	<i>Implications of the First High-energy Astrophysical Neutrino Events in IceCube</i> Stanford/SLAC, May 2014
	22.	Implications of the First High-energy Astrophysical Neutrino Events in IceCube University of California–Berkeley SSL, May 2014
	21.	What We Do and Don't Understand About the Positron Excess Indiana University, October 2013
	20.	What We Do and Don't Understand About the Positron Excess University of Florida, September 2013
	19.	What We Do and Don't Understand About the Positron Excess University of California–Irvine, May 2013
	18.	Implications of the First Plausible High-energy Astrophysical Neutrino Events University of California–Berkeley, February 2013
	17.	<i>The New Energy Frontier of Cosmic-Ray Electrons and Positrons</i> Lawrence Berkeley National Laboratory, March 2012
	16.	<i>The New Energy Frontier of Cosmic-Ray Electrons and Positrons</i> Caltech, March 2011

- 15. *The New Energy Frontier of Cosmic-Ray Electrons and Positrons* Arizona State University, March 2011
- 14. New Constraints on the Highest-Energy Cosmic-Ray Electrons and Positrons University of Chicago/KICP, February 2011
- 13. Dark Matter: From AMS to Zwicky Caltech, January 2011
- 12. The Highest-Energy Galactic Cosmic-ray Electrons and Positrons Pennsylvania State University, April 2010
- 11. The Highest-Energy Galactic Cosmic-ray Electrons and Positrons University of Maryland, January 2010
- 10. *The Highest-Energy Galactic Cosmic-ray Electrons and Positrons* Los Alamos National Laboratory, January 2010
- 9. *The Last Days of a Dying Massive Star* Wayne State University, April 2009
- 8. *Supernovae, Neutrinos, and Exotic Core Collapses* Caltech, November 2008
- 7. *Supernovae, Neutrinos, and Exotic Core Collapses* University of California–Irvine, November 2008
- 6. *Signals of Core Collapse in the Local Universe* Carnegie Observatories (Pasadena), November 2008
- 5. *Supernovae, Neutrinos, and Exotic Core Collapses* University of California–Santa Cruz, October 2008
- 4. Supernovae, Neutrinos, and Exotic Core Collapses Stanford/SLAC KIPAC, October 2008
- 3. *Examining Massive Stars Just Before, During, and After Core Collapse* University of Delaware, October 2008
- 2. *Examining Massive Stars Just Before, During, and After Core Collapse* University of Pittsburgh, September 2008
- 1. *High-Energy Neutrinos: Spawn of Cosmic Rays* Fermilab Particle Astrophysics, February 2007

CONFERENCE

Talks

- TeV Electrons and Positrons: Local Pulsars and Beyond Multi-messenger Approaches to Cosmic Rays 2016, State College, Pennsylvania, June 2016
- 20. On the present mysteries of high-energy neutrinos and cosmic rays Neutrino Astrophysics and Fundamental Properties, Institute for Nuclear Theory, University of Washington, June 2015

- Implications of IceCube's neutrino discoveries for ultrahigh-energy cosmic rays IceCube Particle Astrophysics Symposium 2015, Madison, Wisconsin, May 2015
- From AMS to Zwicky: Positrons and Dark Matter IceCube Particle Astrophysics Symposium 2013, Madison, Wisconsin, May 2013
- 17. *Revealing Aspects of Cosmic-Ray Electrons and Positrons* Fourth International Fermi Symposium, Monterey, California, November 2012
- Revealing Aspects of Cosmic-Ray Electrons and Positrons Einstein Fellows Symposium 2012, Harvard-Smithsonian Center for Astrophysics, October 2012
- 15. *The New Energy Frontier of Cosmic-Ray Electrons and Positrons* INFO 2011, Santa Fe, New Mexico, July 2011
- 14. Pushing the Energy Frontier of Cosmic-Ray Electrons and Positrons CCAPP Symposium 2011, Columbus, Ohio, April 2011
- 13. *The Astrophysical Potential of a 5 Megaton Neutrino Detector* CCAPP Symposium 2011, Columbus, Ohio, April 2011
- 12. The Origins and Evolution of Ultra-Relativistic Electrons in the Milky Way Einstein Fellows Symposium 2010, Harvard-Smithsonian Center for Astrophysics, October 2010
- 11. *High-Energy Electrons, Positrons, and Gamma Rays from Geminga* CCAPP Symposium 2009, Columbus, Ohio, October 2009
- Nearby Sources of High-Energy Electrons and Positrons
 Dark Matter Annihilation in the Interstellar Medium, Fermilab, September 2009
- Dark Matter: From AMS to Zwicky Indirect Searches for Dark Matter From the Galactic Halo, Columbus, Ohio, August 2009
- 8. Southern Sky Sources with Deep Core Low Energy Neutrino Physics and Astrophysics with IceCube, State College, Pennsylvania, March 2009
- 7. Supernovae and Nu Astrophysics Neutrino Frontiers, Minneapolis, Minnesota, October 2008
- 6. *Finding and Examining Supernovae Through Their Neutrinos* Cosmo-08, Madison, Wisconsin, August 2008
- 5. What's the Deal with Supernovae? Great Lakes Cosmology Workshop IX, Pittsburgh, Pennsylvania, June 2008

- 4. *The Evolving Cosmic GRB Rate and Cosmogenic Neutrinos* Institute for Gravitation and the Cosmos Inaugural Conference, State College, Pennsylvania, August 2007
- 3. *Prospects for Galactic TeV Neutrino Astronomy* Great Lakes Cosmology Workshop VIII, Columbus, Ohio, June 2007
- 2. *Guaranteed and Prospective Galactic TeV Neutrino Sources* PASCOS 2006, Columbus, Ohio, September 2006
- Guaranteed and Prospective Galactic TeV Neutrino Sources Second Workshop on TeV Particle Astrophysics, Madison, Wisconsin, August 2006

REFERENCES Reference letters available upon request.