Isak G. B. Wold

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Employment

NASA Postdoctoral Program Fellowship, Goddard Space Flight Center — Greenbelt, MD
Advisor: Dr. James Rhoads — 2018 - Present

Postdoctoral Fellowship, The University of Texas at Austin, Department of Astronomy — Austin, TX
Advisor: Dr. Steven Finkelstein — 2014 - 2018

Navy Nuclear Submarine Officer — Pearl Harbor, HI
Served on the USS Louisville with a two year tour as a TLAM Mission planner — 2002 - 2007

Education

University of Wisconsin-Madison, 2007 - 2014 — Madison, WI
Ph.D. in Astronomy, July 2014; Advisor: Prof. Amy Barger
M.S. in Astronomy, August 2009; Graduate Minor in Physics

Old Dominion University, 2002-2006 — Norfolk, VA
Master of Engineering Management, August 2006

Navy Nuclear Power and Prototype Training, 2000-2001 — Charleston, SC
Advanced Coursework in Math, Thermodynamics, Chemistry, Physics, Electrical Engineering and Materials.
Hands-on study of design and operation of complex engineering systems in a naval nuclear power plant.

United States Naval Academy, 1996-2000 — Annapolis, MD
B.S. in Physics, May 2000

Publications

LAGER Fields WIDE12 and GAMA15A: The 8 deg^2 Lyα Luminosity Function at $z = 6.9$.
Wold, I., The LAGER Team, et al., 2020, ApJ, (in prep.)

A Large, Deep 3 deg^2 Survey of Hα, [O III], and [O II] Emitters from LAGER: Constraining Luminosity Functions
Khostovan, A., et al., **Wold, I.**, 2020, MNRAS, 493, 3966

A Comprehensive Study of Hα Emitters at $z \sim 0.62$ in the DAWN Survey: The Need for Deep and Wide Regions
Harish, S., et al., **Wold, I.**, 2020, ApJ, 892, 30

On the (Lack of) Evolution of the Stellar Mass Function of Massive Galaxies from $z = 1.5$ to 0.4
Kawinwanichakij, L., et al., **Wold, I.**, 2020, ApJ, 892, 7

Exploring the High-Mass End of the Stellar Mass Function of Star-Forming Galaxies at Cosmic Noon
Sherman, S., et al., **Wold, I.**, 2020, MNRAS, 491, 3318

The Lyα Luminosity Function and Cosmic Reionization at $z \sim 7.0$: A Tale of Two LAGER Fields
Hu, W., The LAGER Team, **Wold, I.**, 2019, ApJ, 886, 90

Texas Spectroscopic Search for Lyα Emission at the End of Reionization. II. The Deepest Near-infrared Spectroscopic Observation at $z \gtrsim 7$
Jung, I., Finkelstein, S., et al., **Wold, I.**, 2019, ApJ, 877, 146

Design for the First Narrowband Filter for the Dark Energy Camera: Optimizing the LAGER Survey for $z \sim 7$ Galaxies.
Zheng, Zhen-Ya, The LAGER Team, **Wold, I.**, 2019, PASP, 131, 4502

Publications (continued)

The Spitzer-HETDEX Exploratory Large Area Survey. II. The Dark Energy Camera and Spitzer/IRAC Multiwavelength Catalog.
Wold,I., Kawinwanichakij, L., Stevans, M,. Finkelstein, S., Papovich, C., et al., 2019, ApJS, 240, 5

Bridging Star-forming Galaxy and AGN Ultraviolet Luminosity Functions at $z = 4$ with the SHELA Wide-field Survey.
Stevans, M,. Finkelstein, S., **Wold,I.,** et al., 2018, ApJ, 863, 63

A Faint Flux-Limited Lyman Alpha Emitter Sample at $z \sim 0.3$**.**
Wold, I., Finkelstein, S., Barger, A., Cowie, L., Rosenwasser, B., 2017, ApJ, 848, 108

An Ultraluminous Lyα Emitter with a Blue Wing at $z = 6.6$.
Hu, E., Cowie, L., Songaila, A., Barger, A., Rosenwasser, B., **Wold, I.,** 2016, ApJ, 825, 7

$z \sim 1$ Lyα Emitters I. The Luminosity Function.
Wold, I., Barger, A., Cowie, L., 2014, ApJ, 783, 119

Very Large Array 1.4 GHz Catalogs of the A370 and A2390 Cluster Fields.
Wold, I., Owen, F., Wang, W.-H., Barger, A., Keenan, R., 2012, ApJS, 202, 2

Testing for a Large Local Void by Investigating the Normalization of the Near-Infrared Galaxy Luminosity Function.
Keenan, R. C., Barger, A. J., Cowie, L. L., Wang, W. -H., **Wold, I.**, Trouille, L., 2012, ApJ, 754, 131

A Flux-limited Sample of z $\sim$ 1 Lyα Emitting Galaxies in the Chandra Deep Field South.
Barger, A., Cowie, L., **Wold, I.**, 2012, ApJ, 749, 106

Host Galaxies of Luminous Quasars: Population Synthesis of Optical Off-Axis Spectra.
Wold, I., Sheinis, A.I., Wolf, M.J., & Hooper, E.J., 2010, MNRAS, 408, 713

Gas, Dust and Stars in the SCUBA Galaxy, SMMJ02399-0136: the EVLA Reveals a Colossal Galactic Nursery.
Ivison, R. J., Smail, Ian, Papadopoulos, P. P., **Wold, I.**, Richard, J., Swinbank, A. M., Kneib, J.-P., & Owen, F. N., 2010, MNRAS, 404, 198

Presentations

Talks

Lyα Emitters at Cosmic Dawn with a Deep WFIRST Grism Survey, WFIRST Science Jamboree, New York, NY, March 2020.

Lyman Alpha Galaxies in the Epoch of Reionization, American Astronomical Society (AAS) meeting, Honolulu, HI, January 2020.

A KWFI Lyα Survey at $z = 1.5$, KWFI Workshop, Pasadena, CA, December 2019.

Lyα Emitters at Cosmic Dawn with a Deep WFIRST Grism Survey, WFIRST Science Jamboree, Lanham, MD, July 2019.

The Evolution of Lyα Emitters Over 12 Gyrs of Cosmic Time, Sciences and Exploration Directorate Director's Seminar, Greenbelt, MD, September 2018.

Using WFIRST Multi-Roll-Angle Grism Observations to Obtain a Lyα Flux-Limited Sample of LAEs at Cosmic Dawn, WFIRST/LSST Deep Fields Workshop, Princeton, NJ, August 2018.

A Faint Flux-Limited LAE Sample at $z = 0.3$, American Astronomical Society (AAS) meeting, National Harbor, MD, January 2018.

A Faint Flux-Limited LAE Sample at $z = 0.3$, NMSU Colloquium, Las Cruces, NM, September 2017.

A Faint Flux-Limited LAE Sample at $z = 0.3$, UT Postdoc Colloquium, Austin TX, March 2017.

Do High Equivalent Width LAEs Exist in the Local Universe? Insights from a Flux-Limited GALEX LAE sample at $z \sim 0.3$, Cosmic Lyman-Alpha Workshop, Snowbird, UT, March 2017.

Do High Equivalent Width LAEs Exist in the Local Universe? Insights from a Flux-Limited GALEX LAE sample at $z \sim 0.3$, UW Colloquium, Madison WI, December 2016.

Lyman alpha emitters at $z \sim 1$, Star Formation History of the Universe, MIAPP, Garching Germany, July, 2015.

Evolution of Lyman-alpha Emitting Galaxies: Insights from Flux-Limited GALEX Samples, Exgal Seminar, Austin TX, May 2015.

Evolution of Lyα Emitting Galaxies: Insights From a Flux-Limited *GALEX* Sample at $z \sim 1$, Lyman Alpha as an Astrophysical Tool, Stockholm Sweden, September 2013.

Evolution of Lyα Emitting Galaxies: Insights From a Flux-Limited *GALEX* Sample at $z \sim 1$, First Annual GMT Community Science Meeting, Chicago IL, June 2013.

A Search for the Lowest Metallicity Galaxies at z=0.8, American Astronomical Society (AAS) meeting, Indianapolis IN, June 2013.

Evolution of Lyα Emitting Galaxies: Insights From a Flux-Limited *GALEX* Sample at $z \sim 1$, American Astronomical Society (AAS) meeting, Long Beach CA, January 2013.

Evolution of Lyα Emitting Galaxies: Insights From a Flux-Limited *GALEX* Sample at $z \sim 1$, GALEXFEST, Pasadena CA, September 2012.

Posters

A Faint Flux-Limited Lyman Alpha Emitter Sample at z=0.3.
Wold, I., Finkelstein, S., Barger, A., Cowie, L., 2017, American Astronomical Society, Austin, TX

Big Data In Shela: Investigating Star-Formation Regulation At High Redshift With Progenitors Of Massive Quiescent Galaxies.
Stevans, M., Finkelstein, S., **Wold, I.,** et al., 2017, Galaxy Evolution Across Time Conference, Paris, France

Constraining the End of Reionization with Deep Lyman-alpha Spectroscopy.
Jung, I., Finkelstein, S., Livermore, R., **Wold, I**., Larson, R., 2017, American Astronomical Society, Austin, TX

Broadband and Narrowband Search for z $<$ 1 Analogs of High Redshift Star Forming Galaxies.
Rosenwasser, B., Barger, A., **Wold, I.,** Cowie, L., 2017, American Astronomical Society, Austin, TX

Towards Better Simple Stellar Population Modeling of Active Galaxies Using Diffusion K-Means and SALT.
Mosby, G., **Wold, I.**, Sheinis, A., Richards, J., 2012, American Astronomical Society, Austin, TX

Is the Universe Under-Dense at z $<$ 0.1?
Keenan, R., Barger, A., Cowie, L., Wang, W.-H., **Wold, I.**, Trouille, L., 2011, Argentina Association of Astronomy, San Juan

Population Synthesis Modeling of QSO Host Galaxies.
Wold, I. & Sheinis, A. 2007, American Astronomical Society, Austin, TX

Observing awarded

Gemini - GMOS (PI) 2020

Was Reionization Inhomogeneous at Redshift 7?

PI: I. Wold, Gemini 2020A (35 queue hours)

AstroSAT - UVIT (PI) 2019-2020

Lyman Continuum Escape from [OIII] Emitters at z=1

PI: I. Wold, Cycle A07 (100 kiloseconds)

Keck 10m telescope - DEIMOS (PI) 2014-2017

What Makes a Lyα Galaxy a Lyα Galaxy?

PI: I. Wold, NASA 2014A, 2014B, 2016A, 2016B, 2017B (5 nights)

SALT 11m - RSS-LS (PI) 2013

GALEX Emission Line Galaxies: Lyα Emitters at $z \sim 1$

PI: I. Wold, UW 2013 Semester 1 (14 queue hours)

AAT 4m telescope - AAOmega+2dF (Co-I) 2013

Is the Universe Underdense at $z < 0.1$?

PI: A. Barger, NOAO 2013A (3 nights)

Keck 10m telescope - DEIMOS (PI) 2012

GALEX Emission Line Galaxies: Lyα Emitter Galaxies at $z \sim 1$

PI: I. Wold, NASA 2012B (1 night)

SALT 11m - RSS-LS (PI) 2012

GALEX Emission Line Galaxies: Lyα Emitters at $z \sim 1$

PI: I. Wold, UW 2012 Semester 2 (27 queue hours)

WIYN 3.5m telescope - Hydra (Co-I) 2012

Testing for a Local Underdensity with the Near-Infrared Luminosity Function

PI: A. Barger, UW 2012B (2 nights)

Keck 10m telescope - DEIMOS (PI) 2011

GALEX Emission Line Galaxies: Young Galaxies Beginning Star Formation

PI: I. Wold, NASA 2012A (1 night)

SALT 11m - RSS-LS (PI) 2012

GALEX Emission Line Galaxies: Lyα Emitters at $z \sim 1$

PI: I. Wold, UW 2012 Semester 1 (25 queue hours)

Keck 10m telescope - DEIMOS (PI) 2011

A Search for High Redshift (z>4) Ultraluminous Infrared Galaxies

PI: I. Wold, NASA 2011B (1 night)

SALT 11m - RSS-MOS (Co-I) 2011

GALEX Emission Line Galaxies: Young Galaxies Beginning Star Formation

PI: A. Barger, UW 2011 Semester 2 (15 queue hours)

WIYN 3.5m telescope - Hydra (Co-I) 2011

Extreme Star-Forming Galaxies from z=0 to 2

PI: A. Barger, UW 2011B (3 nights)

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Observing Experience

Keck 10m telescope - DEIMOS, Mauna Kea, Hawaii (ten nights of optical spectroscopy).

Subaru 8.2m telescope - FMOS, Mauna Kea, Hawaii (four nights of NIR spectroscopy).

CTIO 4m telescope - DECam, Cerro Tololo, Chile (five nights of optical imaging).

Mayall 4m telescope - NEWFIRM, Kitt Peak, Arizona (five nights of NIR imaging).

WIYN 3.5m telescope - Hydra, Kitt Peak, Arizona (eighteen nights of optical spectroscopy).

UH 2.2m telescope - ULBCAM, Mauna Kea, Hawaii (seven nights of NIR imaging).

UH 2.2m telescope - Tektronix camera, Mauna Kea, Hawaii (three nights of optical imaging).

Academic Distinctions and Grants

UW Vilas Conference Presentation Grant

Stebbins Award of the University of Wisconsin-Madison Astronomy Department

Recognition of scientific independence, leadership and creativity; external recognition in papers and talks; and ability to communicate research to a scientific audience.

Wisconsin Space Grant Consortium Fellowship

Sigma Xi Grant

UW Vilas Research Travel Grant