

JOSHUA ELI GOLDSTON PEEK
Curriculum Vitae

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Personal

Born: 2 April 1979, Joshua Eli Goldston
Citizenship: U.S.

Education

UNIVERSITY OF CALIFORNIA, BERKELEY Berkeley, CA Ph.D. in Astronomy Dissertation: “High-Velocity Clouds and the Galactic Arecibo L-Band Feed Array Survey in HI” Thesis Advisor: Carl E. Heiles	Jan. 2004 – May 2008
UNIVERSITY OF CALIFORNIA, BERKELEY Berkeley, CA M.S. in Astronomy	Sep. 2002 – Jan. 2004
HARVARD UNIVERSITY Cambridge, MA B.A. in Physics and Astronomy & Astrophysics, with Honors	Sep. 1997 – May 2001

**Employment
and
Teaching**

ASSISTANT ASTRONOMER Space Telescope Science Institute	Summer 2014 – present
HUBBLE FELLOW NASA / Columbia University	Summer 2011 – Summer 2014
POSTDOCTORAL RESEARCHER Columbia University	Summer 2009 – Summer 2011
POSTDOCTORAL RESEARCHER UC Berkeley, Space Sciences Laboratory	Summer 2008 – Summer 2009
GRADUATE STUDENT INSTRUCTOR UC Berkeley, Stellar Physics	Fall 2003
GRADUATE STUDENT INSTRUCTOR UC Berkeley, Radio Astronomy Laboratory	Spring 2003
GRADUATE STUDENT INSTRUCTOR UC Berkeley, Introductory Astronomy	Fall 2002

	OPERATIONS AND ENGINEERING ASSISTANT Smithsonian Astrophysical Observatory Sub-Millimeter Array	Fall 2001 – Spring 2002
	STUDENT INSTRUCTOR Harvard University Physics Question Center	Fall 2000 – Spring 2001
	UNDERGRADUATE RESEARCH ASSISTANT Sloan Digital Sky Survey at Princeton University	Summer 1998, 1999, 2000
Outreach and Service	MEMBER AAS Publications Task Force	Spring 2014 – Fall 2014
	FOUNDER, CO-ORGANIZER NYCastroML: Statistics, Data Mining and Machine Learning in Astronomy study and hack group	Spring 2014
	INITIATOR & DEVELOPER d3po: protocol & software to build user-generated, interactive figures for publication	Fall 2013
	STAFF SCIENTIST Intergalactic Travel Bureau	Summer 2013
	FOUNDER, ORGANIZER Columbia Machine Vision Study Group	Spring 2011
	DESIGNER & DEVELOPER <i>The Invisible Universe</i> : movie and android application for teaching the all-sky universe 140,000 YouTube views, 20,000 app downloads	Summer 2011
	FOUNDER, INSTRUCTOR UC Berkeley, GALFA-HI Summer school	Summer 2008- 2010
	FOUNDER, ORGANIZER UC Berkeley Astronomy Department – Meher School Annual Astronomy Day	Fall 2003 – Fall 2006
	CONSULTANT Gordon & Betty Moore Foundation critical review of CELT (now TMT) 30m telescope	Summer 2003
	PUBLIC LIAISON UC Berkeley Astronomy Department	Fall 2002 – Fall 2007
Students Advised	FORMAL ADVISING Destry R. Saul: Completed PhD thesis with Mary Putman Susan Clark, Yong Zheng: Ongoing PhD theses with Mary Putman Yong Zheng: Second year graduate project Susan Clark: First year graduate project Steven Mohammed: First year graduate project	
	INFORMAL ADVISING: UNDERGRADUATE Destry R. Saul, Kyle Englehorn, Nick Pingel, Susan Clark	

INFORMAL ADVISING: GRADUATE

Tina Hsu, Jana Grcevich, Min-Yong Lee, Lia Corrales, Pei Zuo, Yong Zheng, M. Ximena Fernandez

**Observing,
Data,
and
Grants**

ARECIBO OBSERVATORY 2003 – present
250 hours as PI and 10,000 hours as co-I for Galactic 21-cm line studies.

LARGE AREA ARCHIVAL DATA 2003 – present
Extensive experience with LAB, GASS, GALFA-HI, Planck, IRAS, WISE, SDSS, WHAM, GALEX AIS, RASS

NSF 2013
Study of multiphase flows in the Galactic Halo as a co-I. Awarded \$360,000.

COLUMBIA ROADS 2014
Study of weak lensing using methods of Machine Vision and Machine Learning as co-I. Awarded \$200,000.

HERSCHEL 2011
10 hours as co-PI for studies of CII in high latitude gas. Awarded \$35,000.

INTERFEROMETERS: VLA, ATA, VLBA, BIMA 2005 – 2009
200 hours as co-I and PI for various Galactic studies.

HUBBLE 2009, 2014
28 orbits as PI for CGM UV absorption with COS. 7 orbits as co-I for studies of UV absorption spectroscopy of CNM gas. Awarded \$64,000.

KECK OBSERVATORY 2007
2 nights as co-I for high-resolution stellar spectroscopy.

**Invited
Talks**

FIBERS AND FILAMENTS: LINEAR FEATURES AND THE CONNECTION BETWEEN THE NEUTRAL AND MOLECULAR ISM October 2014
The Filamentary Structure in Molecular Clouds

THE HISTORY OF GALACTIC HI OBSERVATIONS May 2014
Galactic Science with the SKA & its Pathfinders

GASEOUS GALAXY HALOS AT LOW REDSHIFT February 2014
The Near Field — Deep Field Connection

CGM DUST January 2014
Notre Dame CGM Workshop

GASEOUS GALAXY HALOS April 2013
Fermi Bubbles Workshop

THE GALFA-HI SURVEY & SCIENCE October 2012
Frontiers in Radio Astronomy and FAST Early Sciences

HIGH-VELOCITY CLOUDS & ACCRETION August 2012
The Dynamics of Baryons

HIGH-VELOCITY CLOUDS & ACCRETION
Disks 2012 April 2012

DUST BEYOND DISKS June 2011
Gas in Galaxies: From Cosmic Web to Molecular Clouds

THE GALFA-HI SURVEY June 2010
The Dynamic ISM: A celebration of the Canadian Galactic Plane Survey

13 WAYS OF LOOKING AT A HALO November 2008
Radio Astronomy Laboratory 50th Anniversary Conference

CONSTRAINTS ON THE GALAXY'S ONGOING ACCRETION AND HALO April 2008
Galaxy Formation and Evolution as Revealed by Cosmic Gas

Colloquia **Topic:** THE DIFFUSE UNIVERSE: CATALOGS, CONTINUA, COMBINATION

Space Telescope Science Institute March 2014

Johns Hopkins University March 2014

Macquarie University February 2014

ICRAR February 2014

Topic: EXTREME DUST & GALACTIC PENUMBRAE

University of Kentucky October 2013

Yale University September 2013

Penn State Physics Department September 2013

Notre Dame Physics Department April 2013

SUNY Stonybrook Astronomy Department February 2013

Topic: CASTING SHADOWS ON THE STANDARD INTERSTELLAR MEDIUM PARADIGM WITH GALFA-HI

University of Texas, Austin Astronomy Department October 2011

Rutgers University Physics Department April 2011

Arecibo Observatory March 2011

New York University Physics Department January 2011

Columbia University Astronomy Department November 2010

Wesleyan College Astronomy Department November 2010

American Museum of Natural History Astronomy Department October 2010

University of Wisconsin, Madison Astronomy Department October 2010

Public Lectures	OUTER SPACE! Princeton Plasma Physics Laboratory	January 2013
	OUTER SPACE! Columbia's Summer Research Program for Science Teachers	July 2011
	OUTER SPACE! Columbia University Winner of APPLAUSE award for best public lecture	October 2010
	OUR SPIRAL IDENTITY Tri-Valley Stargazers Association	August 2008
	GALACTIC RECYCLING East Bay Astronomical Society	August 2008

Publications POTENTIAL NEW LOCAL GROUP DWARF GALAXIES IN THE GALFA-HI SURVEY
h=18 Grcevich, J., Saul, D., **Peek, J. E. G.**, Putman, M. 2013, *ApJ*, *in revisions*

GALACTIC PENUMBRAE: DUST IN THE HALOS OF LOW-REDSHIFT GALAXIES
Peek, J. E. G., Ménard, Brice, Corrales, Lia, 2014, *ApJ*, *submitted*

DUST-TO-GAS RATIOS OF THE GALFA-HI COMPACT CLOUD CATALOG
 Saul, D., **Peek, J. E. G.**, Putman, M. 2014, *MNRAS*, *441*, 3

AN ATLAS OF GALAXY SPECTRAL ENERGY DISTRIBUTIONS FROM THE ULTRAVIOLET TO
 THE MID-INFRARED Brown, Michael [7 authors], **Peek, J. E. G.** 2014, *ApJS*, *212*, 2

MAGNETIZED HI FIBERS AND THE ROLLING HOUGH TRANSFORM
 Clark, S. E., **Peek, J. E. G.**, Putman, M. 2014, *ApJ*, *in press*; *astro-ph/1312.1338*

ULTRAVIOLET EXTINCTION AT HIGH GALACTIC LATITUDES II: THE ULTRAVIOLET EX-
 TINCTION FUNCTION
Peek, J. E. G., 2013, *ApJ*, *submitted*; *astro-ph/1311.2941*

CHARACTERIZING THE TURBULENT PROPERTIES OF THE STARLESS MOLECULAR CLOUD
 MBM16
 Pingel, N. M., Stanimirovic, Snezana, **Peek, J. E. G.** [13 authors], 2013, *ApJ*, *779*, 36

ULTRAVIOLET EXTINCTION AT HIGH GALACTIC LATITUDES
Peek, J. E. G., Schiminovich, David, 2013, *ApJ*, *771*, 68

A COMPARISON OF FAR IR AND HI AS REDDENING PREDICTORS AT HIGH GALACTIC
 LATITUDE
Peek, J. E. G., 2013, *ApJ*, *766*, L6

HI SHELLS AND SUPERSHELLS IN THE I-GALFA HI 21-CM LINE SURVEY: I. FAST-
 EXPANDING HI SHELLS ASSOCIATED WITH SUPERNOVA REMNANTS
 Park, G., [5 authors], **Peek, J. E. G.**, [3 authors] 2013, *ApJ*, *777*, 14

GASKAP — THE GALACTIC ASKAP SURVEY
 Dickey, J. M., [52 authors], **Peek, J. E. G.**, [3 authors] 2013, *PASA*, *30*, 3D

GAS ACCRETION IS DOMINATED BY WARM IONIZED GAS IN MILKY WAY-MASS GALAX-
 IES AT $z \sim 0$
 Joung, M. Ryan, Putman, Mary E., Bryan, Greg L., Fernandez, Ximena, **Peek, J. E. G.**,
 2012, *ApJ*, *759*, 137

GASEOUS GALAXY HALOS

Putman, Mary E., **Peek, J.E.G.**, Joung, M.-K., 2012, *Annual Reviews*, 50, 491

THE GALFA-H I COMPACT CLOUD CATALOG

Saul, Destry, **Peek, J.E.G.**, [14 authors], 2012 *ApJ*, 758, 44

THE LOCAL LEO COLD CLOUD AND NEW LIMITS ON A LOCAL HOT BUBBLE

Peek, J. E. G., Heiles, Carl, Peek, K. M. G., Meyer, David, Lauroesch, James, 2011, *ApJ*, 735, 129

THE GALFA-HI SURVEY: DATA RELEASE 1

Peek, J. E. G. [12 authors], 2011, *ApJS*, 149, 20

THE REMARKABLE HIGH PRESSURE OF THE LOCAL LEO COLD CLOUD

Meyer, David M., Lauroesch, J. T., **Peek, J.E.G.**, Heiles, C., 2011, *ApJ*, 752, 119

A HIGH RESOLUTION STUDY OF THE HI-H2 TRANSITION ACROSS THE PERSEUS MOLECULAR CLOUD

Lee, Min-Young, [10 authors], **Peek, J.E.G.**, 2011, *ApJ*, 748, 75

THE GALFA-HI SURVEY

Peek, J. E. G. [10 authors], 2010, *ASPC*, 438, 393

A CORRECTION TO THE STANDARD GALACTIC REDDENING MAP: PASSIVE GALAXIES AS STANDARD CRAYONS

Peek, J. E. G., Graves, G., 2010, *ApJ*, 719, 415

PHYSICAL PROPERTIES OF COMPLEX C HALO CLOUDS

Hsu, W-H, Putman, M. E., Heitsch, F., Stanimirović, S., **Peek, J. E. G.**, Clark, S. E., 2010, *AJ*, 141, 57

COMPACT HI CLOUDS FROM THE GALFA-HI SURVEY

Begum, Ayesha, Stanimirović, Snežana, **Peek, J. E. G.** [10 authors], 2010, *ApJ*, 722, 395

VELOCITY SPECTRUM FOR HI AT HIGH LATITUDES

Chepurnov, A., Lazarian, A., Stanimirović, S, Heiles, C., **Peek, J. E. G.**, 2010, *ApJ*, 714, 1398

HITTING THE BULLSEYE: THE RADIAL PROFILE OF ACCRETION AND STAR FORMATION IN THE MILKY WAY

Peek, J.E.G., 2009, *ApJ*, 698, 1429

LOW-VELOCITY HALO CLOUDS

Peek, J.E.G., Putman, M. E., Heiles, Carl, Douglas, K., 2009, *ApJ*, 692, 827

THE DISRUPTION AND FUELING OF M33

Putman, M. E., **Peek, J.E.G.**, [8 authors], 2009, *ApJ*, 703, 1486

A PECULIAR HI CLOUD NEAR THE DISTANT GLOBULAR CLUSTER PAL4

van Loon, Jacco, Stanimirović, Snežana, Putman, Mary, **Peek, J. E. G.**, [3 authors], 2009, *MNRAS*, 396, 1096

ONGOING GALACTIC ACCRETION: SIMULATIONS AND OBSERVATIONS OF CONDENSED GAS IN HOT HALOS

Peek, J.E.G., Putman, M. E., Sommer-Larsen, Jesper, 2008, *ApJ*, 674, 227

AN ACCURATE DISTANCE TO HIGH-VELOCITY CLOUD COMPLEX C

Thom, B., **Peek, J.E.G.**, Putman, M. E., Heiles, Carl, Peek, K. M. G., Wilhelm, R., 2008, *ApJ*, 684, 364

THE MANY STREAMS OF THE MAGELLANIC STREAM

Stanimirovic, S., Hoffman, S., Heiles, C., Douglas, K. A., Putman, M. E., **Peek, J. E. G.**, 2008, *ApJ*, 680, 276

RECONSTRUCTING DECONSTRUCTION: HIGH-VELOCITY CLOUD DISTANCE THROUGH DISRUPTION MORPHOLOGY

Peek, J.E.G., Putman, M. E., McKee, Christopher F., Heiles, Carl, Stanimirovic, Snezana, 2007, *ApJ*, 656, 907

A PARALLACTIC DISTANCE OF 389^{+24}_{-21} PARSECS TO THE ORION NEBULA CLUSTER FROM VERY LONG BASELINE ARRAY OBSERVATIONS

Sandstrom, Karin M., **Peek, J.E.G.**, Bower, Geoffrey C., Bolatto, Alberto D., Plambeck, Richard L., 2007, *ApJ*, 667, 1161

FIRST RESULTS FROM THE ARECIBO GALACTIC H I SURVEY: THE DISK/HALO INTERFACE REGION IN THE OUTER GALAXY

Stanimirovic, Snezana, Putman, Mary, Heiles, Carl, **Peek, J.E.G.** [10 authors], 2006, *ApJ*, 653, 1210

A COLD NEARBY CLOUD INSIDE THE LOCAL BUBBLE

Meyer, David M., Lauroesch, J. T., Heiles, Carl, **Peek, J.E.G.**, Engelhorn, Kyle, 2006,

ApJL, 650, 67

THE SLOAN DIGITAL SKY SURVEY MONITOR TELESCOPE PIPELINE

Tucker, D. L., [11 authors], **J. Goldston**, [20 authors], 2006, *AN*, 327, 821

SYNCHROTRON RADIATION FROM RADIATIVELY INEFFICIENT ACCRETION FLOW SIMULATIONS: APPLICATIONS TO SAGITTARIUS A*

Goldston, Joshua E., Quataert, Eliot, Igumenshchev, Igor V, 2005, *ApJ*, 621, 785

FIRST SIMULTANEOUS NIR/X-RAY DETECTION OF A FLARE FROM SGR A*

Eckart, A., [12 authors], **Goldston, Joshua E.**, 2004, *A&A*, 427, 1

HOW MIRA VARIABLES CHANGE VISUAL LIGHT BY A THOUSANDFOLD

Reid, M. J., **Goldston, J. E.**, 2002, *ApJ*, 568, 931

CANDIDATE RR LYRAE STARS FOUND IN SLOAN DIGITAL SKY SURVEY COMMISSIONING DATA

Ivezić, Željko, **Goldston, Josh**, [40 authors], 2000, *AJ*, 120, 963