Andrew W. Mann

Curriculum Vitae

CONTACT INFORMATION

Columbia University
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RESEARCH INTERESTS

Exoplanet statistics (occurrence, correlations with host star properties)
Evolution of planetary systems
Methods to detect and characterize (young) planets
Machine learning & numerical methods
Fundamental properties of late-type and pre-main sequence stars
Techniques for high-precision photometry

REFERENCES

Adam Kraus	Professor, University of Texas at Austin (alk@astro.as.utexas.edu)
Eric Gaidos	Professor, University of Hawai'i (gaidos@hawaii.edu)
Philip Muirhead	Professor, Boston University (philipm@bu.edu)

EMPLOYMENT

Hubble Prize Postdoctoral Fellow	2015 – Present
Harlan J. Smith Prize Postdoctoral Fellow	2013 – 2015
Research Assistant; Advisor: Prof. Eric Gaidos	2009 – 2013
Research Assistant; Advisor: Dr. Jeffrey Morgan	2008 – 2009

EDUCATION

Institute for Astronomy, University of Hawai'i at Manoa,

Ph.D., Astronomy & Astrophysics, 2013

PhD Thesis Topic: *Planets around cool stars: a spectroscopic and photometric study of M dwarfs and their planets*
Advisor: Prof. Eric Gaidos

M.S., Astronomy, 2010

Masters Thesis Topic: *The Invisible Majority? Evolution and Detection of Outer Planetary Systems without Gas Giants*; Advisor: Prof. Eric Gaidos
Masters Thesis Topic 2: *BHOMs and the Redshift Evolution of the Cluster Merger Fraction*; Advisor: Dr. Harald Ebeling

Department of Physics and Astronomy, Johns Hopkins University,
B.S., Physics, with a minor in Mathematics, June 2008

GRANTS & AWARDS (AS PI ONLY)

ROSES-2016/K2 Guest Observer
Zodiacal Exoplanets in Time (ZEIT): The Return to Praesepe $30,000
Hubble Postdoctoral Fellowship Program
Understanding Planets Through Their Host Stars $360,000

Harlan J. Smith Postdoctoral Fellowship	
Kepler Input Catalog Atlas of Stellar Spectra	$210,000
NASA-Keck Principal Investigator Data Award	
Weighing the Stars: The Mass-Luminosity Relation for M Dwarfs	$41,500
Zodiacal Exoplanets in Time (ZEIT): The AO Follow-up Program	$18,000
NASA-WIYN Principal Investigator Data Award	
Clusters with K2: Systematics from Membership and Binarity	$39,000
ROSES-2015/K2 Guest Observer	
Zodiacal Exoplanets in Time (ZEIT): The Hyades Cluster	$40,000
University Research Council Award (Doctoral level)	$1000

Mentorship & Teaching

Students Supervised:

Pa Chia Thao; TAURUS Undergraduate; *Spitzer's view of two young exoplanets*

Megan Ansdell; UH/IfA Graduate Student; *Are circumstellar disks always aligned with their host stars?*

Xueying Guo; MIT Graduate Student; *The metallicity distribution and hot Jupiter rate of the Kepler field*

Jennifer Medina; TAURUS Undergraduate; *Measuring Vsin(i) of young planet-hosting stars*

Nathan Morris; UT Undergraduate; *Rotation periods and ages for K2 planet hosts*

Richard Seifert; UT Undergraduate; *Cluster Binarity from WIYN/Hydra*

Guest Lectures:

Introduction to Astronomy (UT undergraduate); Magnitudes & Colors

Introduction to Astronomy (UT undergraduate); Blackbodies & Stars

Planetary Systems (UT undergraduate); Properties of planet-hosts

Planetary Systems (UT graduate); Interplay of planets and their host stars

Professional Activities & Service

TESS Cool Dwarf Target Selection group	2015-present
TESS Target Selection working group	2015-present
McDonald Time Allocation Committee	2015-present
Referee for Nature, ApJ, AJ, A&A	
Texas M Dwarfs and Exoplanets (Tex-MEX) Organizer	2014-2017
NESSF reviewer	2016, 2017
Bashfest SOC, LOC	2015, 2017
OPTICON external reviewer	2015-2017
China Telescope Access Program Reviewer	2016
TAURUS Summer Research Program Mentor	2016, 2017
Hubble Space Telescope Time Allocation Committee	2015
Kepler Stellar properties working group	2013-2014
Visiting Researcher at Boston University	2014-2015
Cool Stars 18 Splinter Organizer	2014
University of Hawaii Time Allocation Committee	2012-2013
University of Hawaii Graduate Student Representative	2011-2012
University of Hawaii Graduate Admissions Committee	2010-2011

PI	*Spitzer* (IRAC)	125 hours
Observing Time	Keck (LRIS, NIRC2, ESI) [UH, NASA]	11 nights
	Gemini (GNIRS) [NOAO]	4 nights
	CFHT (ESPaDOnS) [UH]	30 hours
	WIYN (Hydra) [NOAO]	65 hours
	IRTF (SpeX) [UH, Open]	32 nights
	Harlan J. Smith (TS23 Coude, IGRINS) [UT]	34 nights
	LCOGT [UT]	250 hours
	UH2.2m (SNIFS, OPTIC) [UH]	$>$ 50 nights

Talks

Invited & Colloquia:

Frank N. Bash Symposium; New Horizons in Astronomy	2017
Asteroseismology and Optical Interferometry	2017
University of Florida; Department of Astronomy	2017
Academia Sinica; Institute of Astronomy and Astrophysics (ASIAA)	2017
University of Minnesota; Institute for Astrophysics	2017
Institute of Astronomy, National Tsing Hua University	2016
Department of Astronomy, Boston University	2014
California Institute for Technology (Distinguished Visitor Program)	2013

Public:

Astronomy on Tap	2017
EXES Teacher Meeting	2017
Gasparilla Teacher's Association	2016
Board of Visitors Discussion Group	2015
Board of Visitors Science Talk	2014
Friends of the IfA	2012

21 contributed/seminar talks not listed

Press Releases

New Planet Offers Clues to the Origin of Close-in Exoplanets

Newly Discovered Planet in the Hyades Cluster Sheds Light on Planetary Evolution

First Author Publications (15)

"Zodiacal Exoplanets in Time (ZEIT) VI: a three-planet system in the Hyades cluster including an Earth-sized planet"
Mann, Andrew W.; Vanderburg, Andrew; Rizzuto, Aaron C.; et al.; Accepted to AJ.

"The Gold Standard: Accurate Stellar and Planetary Parameters for Eight Kepler M Dwarf Systems Enabled by Parallaxes"
Mann, Andrew W.; Dupuy, Trent; Muirhead, Philip; et al.; 2017, AJ 153 267.

"Zodiacal Exoplanets in Time (ZEIT) IV: seven transiting planets in the Praesepe cluster"
Mann, Andrew W.; Gaidos, Eric; Vanderburg, Andrew; et al.; 2017, AJ 153 64.

"Zodiacal Exoplanets in Time (ZEIT) III: A short-period planet orbiting a pre-

main-sequence star in the Upper Scorpius OB Association"
Mann, Andrew W.; Newton, Elisabeth R.; Rizzuto, Aaron C.; et al.; 2016, AJ 152 61.

"Zodiacal Exoplanets In Time (ZEIT) I: A Neptune-sized planet orbiting an M4.5 dwarf in the Hyades Star Cluster"
Mann, Andrew W.; Gaidos, Eric; Mace, Gregory N.; et al.; 2016, ApJ, 818 46.

"How to Constrain Your M Dwarf: measuring effective temperature, bolometric luminosity, mass, and radius"
Mann, Andrew W.; Feiden, Gregory A.; Gaidos, Eric; Boyajian, Tabetha; von Braun, Kaspar; 2015, ApJ, 804 64.

"Revised Photometric Passbands and Zero-Points for Photometry of Bright Stars"
Mann, Andrew W.; von Braun, Kaspar; 2015, PASP 127 102.

"Prospecting in Ultracool Dwarfs: Measuring the Metallicities of Mid- and Late-M Dwarfs"
Mann, Andrew W.; Deacon, Niall R.; Gaidos, Eric; Ansdell, Megan; Brewer, John M.; Liu, Michael C.; Magnier, Eugene A.; Aller, Kimberly M.; 2014, AJ 147 160.

"Spectro-thermometry of M Dwarfs and Their Candidate Planets: Too Hot, Too Cool, or Just Right?"
Mann, Andrew W.; Gaidos, Eric; Ansdell, Megan; 2013, ApJ, 779 188.

"Testing the Metal of Late-Type Kepler Planet Hosts with Iron-Clad Methods"
Mann, Andrew W.; Gaidos, Eric; Kraus, Adam; Hilton, Eric; 2013, ApJ, 770 43.

"Prospecting in late-type dwarfs:
a calibration of infrared and visible spectroscopic metallicities of late-K and M dwarfs spanning 1.5 *dex"*
Mann, Andrew W.; Brewer, John; Gaidos, Eric; Lépine, Sébastien; Hilton, Eric; AJ 2013, 145 52.

"They Might be Giants: luminosity classes, planet frequency, and planet-metallicity relation of the coolest Kepler target stars"
Mann, Andrew W.; Gaidos, Eric; Lépine, Sébastien; Hilton, Eric; 2012, ApJ, 753, 90.

"X-ray-optical classification of cluster mergers and the evolution of the cluster merger fraction"
Mann, Andrew W.; Ebeling, Harald; 2012, MNRAS 240, 2120.

"Ground-Based Sub-Millimagnitude CCD Photometry of Bright Stars using Snapshot Observations"
Mann, Andrew W.; Gaidos, Eric; Aldering Greg; 2011, PASP 123, 1273.

"The Invisible Majority? Evolution and Detection of Outer Planetary Systems without Gas Giants"
Mann, Andrew W.; Gaidos, Eric; Gaudi, B Scott; 2010, ApJ, 719, 1454.

PUBLICATIONS WITH A SIGNIFICANT CONTRIBUTION (21)

"A Catalog of Cool Dwarf Targets for the Transiting Exoplanet Survey Satellite"
Muirhead, Philip S.; Dressing, Courtney; **Mann, Andrew W.**; et al.; Submitted to AAS.

"Zodiacal Exoplanets in Time (ZEIT) V: A Uniform Search for Transiting Planets in Young Clusters Observed by K2"
Rizzuto, Aaron C.; **Mann, Andrew W.**; Vanderburg, Andrew; et al.; ApJ in press.

"The Factory and the Beehive. III. PTFEB132.707+19.810, A Low-mass Eclipsing Binary in Praesepe Observed by PTF and K2"
Kraus, Adam L.; Douglas, Stephanie T.; **Mann, Andrew W.**; et al.; ApJ 845 72.

"The metallicity distribution and hot Jupiter rate of the Kepler field: Hectochelle High-resolution spectroscopy for 776 Kepler target stars"
Guo, Xueying; Johnson, John A.; **Mann, Andrew W.**; et al.; ApJ 838 25.

"M Dwarf Activity in the Pan-STARRS 1 Medium-Deep Survey: First Catalog and Rotation Periods"
Kado-Fong, Erin; Williams, Peter K. G.; **Mann, Andrew W.**; et al.; ApJ 833 281.

"Zodiacal Exoplanets in Time (ZEIT) II. A "Super-Earth" Orbiting a Young K Dwarf in the Pleiades Neighborhood"
Gaidos, Eric; **Mann, Andrew W.**; Rizzuto, Aaron; et al.; 2016, MNRAS, 1448.

"The Physical Mechanism Behind M Dwarf Metallicity Indicators and the Role of C and O Abundances"
Veyette, Mark J.; Muirhead, Philip S.; **Mann, Andrew W.**; Allard, France; 2016, ApJ, 828, 95.

"The Impact of Stellar Multiplicity on Planetary Systems. I. The Ruinous Influence of Close Binary Companions"
Kraus, Adam L.; Ireland, Michael J.; Huber, Daniel; **Mann, Andrew W.**; Dupuy, Trent J.; 2016, AJ, 152, 8.

"They are small worlds after all: revised properties of Kepler M dwarf stars and their planets"
Gaidos, E.; **Mann, Andrew W.**; Kraus, A. L.; Ireland, M.; 2016, MNRAS, 457, 2887.

"Radial Trends in IMF-sensitive Absorption Features in Two Early-type Galaxies: Evidence for Abundance-driven Gradients"
McConnell, Nicholas J.; Lu, Jessica R.; **Mann, Andrew W.**; 2016, ApJ, 821, 39.

"A Pan-STARRS 1 study of the relationship between wide binarity and planet occurrence in the Kepler field"
Deacon, N. R.; Kraus, A. L.; **Mann, Andrew W.**; et al.; 2016, MNRAS, 455, 4212.

"The Enigmatic and Ephemeral M Dwarf System KOI 6705: Cheshire Cat or Wild Goose?"
Gaidos, Eric; **Mann, Andrew W.**; Ansdell, Megan; 2016, ApJ, 817, 50.

"Kepler-445, Kepler-446 and the Occurrence of Compact Multiples Orbiting Mid-M Dwarf Stars"
Muirhead, Philip S.; **Mann, Andrew W.**; Vanderburg, Andrew; et al.; 2015, ApJ, 801, 18.

"The Near-ultraviolet Luminosity Function of Young, Early M-type Dwarf Stars"
Ansdell, Megan; Gaidos, Eric; **Mann, Andrew W.**; et al.; 2015, 798, 41.

"Trumpeting M dwarfs with CONCH-SHELL: a catalogue of nearby cool host-stars for habitable exoplanets and life"
Gaidos, Eric; **Mann, Andrew W.**; Lpine, S.; et. al.; 2014, MNRAS 433, 2561.

"M Dwarf Metallicities and Giant Planet Occurrence: Ironing Out Uncertainties and Systematics"
Gaidos, Eric; **Mann, Andrew W.**; Ansdell, Megan; 2014, ApJ, 791, 54.

"An Understanding of the Shoulder of Giants: Jovian Planets around Late K Dwarf Stars and the Trend with Stellar Mass"
Gaidos, Eric; Fischer, Debra A.; **Mann, Andrew W.**; et al.; 2013, ApJ, 771, 18.

"Objects in Kepler's Mirror May be Larger than they Appear: Bias and Selection Effects in Transiting Planet Surveys"
Gaidos, Eric; **Mann, Andrew W.**; 2013, ApJ, 145, 52.

"A Spectroscopic Catalog of the Brightest ($J < 9$) M Dwarfs in the Northern Sky"
Lépine, Sébastien; Hilton, Eric; **Mann, Andrew W.**; Rojas-Ayala, Barbara; Wilde, Matthew; and Gaidos, Eric; 2013, AJ, 145, 102.

"On the Nature of Small Planets around the Coolest Kepler Stars"
Gaidos, Eric; Fischer, Debra A.; **Mann, Andrew W.**; Lépine, Sébastien; 2012, ApJ, 746 36.

"Transit Analysis Package (TAP and autoKep): IDL Graphical User Interfaces for Extrasolar Planet Transit Photometry"
Gazak, J. Zachary; Johnson, John A.; Tonry, John; Eastman, Jason; **Mann, Andrew W.**; Agol, Eric; 2012, Advances in Astronomy, 30.

28 refereed papers where my contribution was minor are not listed. Click for full ADS listing