

JOHN MICHAEL BREWER

Yale Astronomy
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CURRENT POSITION

Postdoctoral Associate, Yale University/Dr. Debra Fischer, June 2016-present

EDUCATION

Yale University — New Haven, CT

Ph.D. Astronomy, 2016

Thesis: *Messages from the Reversing Layer: Clues to Planet Formation in Stellar Abundances*

Advisors: Dr. Debra Fischer & Dr. Sarbani Basu

M.Phil. & MS in Astronomy, 2012

San Francisco State University — San Francisco, CA

Masters in Physics program 2008-2010, left for PhD program at Yale

New York University — New York, NY

Bachelor of Fine Arts, 1991

AWARDS & HONORS

Yale University Wise Fellow, 2015-2016

San Francisco State University Marcy Research Fellowship, 2009-2010

ACCEPTED OBSERVING PROPOSALS

"Absolutely! Calibrating Stellar Abundances Using the Hyades", Yale Keck HIRES 2017B, 3 nights (PI **John M. Brewer**)

"Rocky Planet Compositions: The Habitability of Habitable Zone Planets", Yale Keck HIRES 2017A, 3 nights (PI **John M. Brewer**)

"Compact Multi-planet System or Hot Jupiter: Silicon and Magnesium May Hold the Key", Yale Keck HIRES 2016B, 1 night (PI D. Fischer, **Co-I Brewer**)

"Calibrating the Chemistry of Planet Formation", Yale Keck HIRES 2016A, 1 night (PI D. Fischer, **Co-I Brewer**)

OBSERVING EXPERIENCE

Keck I — HIRES, > 20 nights

Lick Shane 3M — Hamilton Spectrograph, 8 nights

CTIO 1.5M — echelle spectrograph and CHIRON spectrograph, > 10 nights

WIYN Observatory 3.5M — WHIRC high-resolution infrared camera, 1 night

TEACHING AND OUTREACH

Co-Teacher, American Museum of Natural History, New York, NY, 2016-present
Secrets of the Solar System, After School Program for high school students

Undergraduate Mentor, Yale University, 2015-2016
Justin Myles (Yale University), Lithium Abundances in Planet Search Stars (AAS 227 poster, paper in prep)

"Local Systems", Collaboration with Artist Natalia Porter, 2014
Collaborated on design of astronomy based art works presented in a solo show by the artist Natalia Porter, in Buffalo, NY, August 2014.

"Stellar Tea @ Yale", Organizer and host, Yale University, 2011-2015
Initiated, organized, and hosted weekly discussion on topics from exoplanets to star formation, to local dwarf galaxies. Included organizing guest speakers from within and outside Yale.

Teaching Fellow, Yale University, 2010-2013
Designed and led weekly discussion sessions, led exam review sessions, developed solution guides and supplemental materials, grading.

"Database Design for Astronomers", workshop organizer and instructor, Yale, June 2013

"Searching for Other Earths", outreach talk, Leitner Observatory, Yale, February 2013

"Around a Distant Star", outreach talk, Leitner Observatory, Yale, April 2011

"Getting to Know the Neighbors", outreach talk, North Salinas High School, Salinas, CA, May 2010

COMPUTING EXPERIENCE

Extensive experience with many languages and database systems including Python, IDL, Perl, C, Java, XML, SQL, MySQL, and MS SQL in addition to tools such as SME (spectral analysis) and YREC (stellar modeling). Initial design of Planet Hunters citizen science project, designed and developed queue scheduling and observing system, *Chiron Tools*, collaborated on XML time-series data format for IVOA. Currently designing *Chiron Tools* like system for the EXPRES spectrograph on the Discovery Channel Telescope.

TALKS & CONFERENCES

Talk, Kepler/K2 SciCon IV, NASA Ames, Mountain View, CA — June 2017

"Beyond Metallicity: Chemical Tracers of Planet Formation"

Invited Talk, Exoplanet Science with Small Telescopes, U Penn, Philadelphia, PA — April 2017

"CHIRON & Optimizing Cadence in RV Surveys"

Invited Talk, American Museum of Natural History Colloquium, New York, NY — March 2017

"Clues to Planet Formation in Spectral Abundances"

Invited Talk, Penn State Center for Exoplanets & Habitable Worlds Seminar, State College, Pennsylvania — January 2017

"Clues to Planet Formation in Spectral Abundances"

Poster, Cool Stars 19, Uppsala, Sweden — June 2016

"Messages from the Reversing Layer: Clues to Planet Formation in Stellar Abundances"

Poster, 20 Years of Giant Exoplanets, Observatoire de Haute-Provence, France — October 2015

"Messages from the Reversing Layer: Clues to Planet Formation in Stellar Abundances"

Talk, AAS 225, Seattle, Wa — January 2015

"Accurate Spectroscopic Stellar Parameters"

John M. Brewer - CV

Talk, Stellar Spectral Analysis at Low and High Resolution, Santa Cruz, CA — August 2013

“Extended Abundance Analysis of Planet Search Stars”

Poster, Protostars & Planets VI, Heidelberg, Germany— July 2013

“Improved Accuracy of Spectroscopic Gravity Using Asteroseismology”

Poster, Cool Stars 17, Barcelona, Spain— June 2012

“Age and Metallicity from Asteroseismic Frequency Ratios”

Poster, AAS 218, Boston, MA, USA — May 2011

“New Exo-Planet Candidates Discovered by the Citizen Scientists of PlanetHunters.org”

Poster, AAS 215, Washington, D.C., USA — January 2010

“SimpleTimeseries: Towards a Standard Representation of Astronomical Time-Series”

Talk, Hot-wiring the Transient Universe 2, Santa Cruz, CA, USA — May 2009

“Beyond Events: Developing Sources and Timeseries for the Decade of Time-Domain”

Poster, ADASS XVIII, Québec, Canada — October 2008

“A Web-Based Framework for Rapidly Building a Light Curve Warehouse”