

Megan BEDELL, Ph.D.

RESEARCH INTERESTS: exoplanetary science; stellar spectroscopy;
extreme precision radial velocity measurements;
solar twin stars; chemical mapping of the Milky Way
POSITION: Flatiron Research Fellow
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EDUCATION

UNIVERSITY OF CHICAGO	2012 - 2017
PhD in Astronomy & Astrophysics	
Dissertation Title: Illuminating the Origins of Planets with Solar Twins	
Advisor: Jacob Bean	
HAVERFORD COLLEGE	2008 - 2012
Graduated Magna Cum Laude	
B.S. with Honors in Physics and with Highest Honors in Astronomy	

HONORS & AWARDS

Josephine DeKarman Fellow	2016 - 2017
Lewis & Clark Field Scholar in Astrobiology	2016 - 2017
Illinois Space Grant Fellow	2016 - 2017
University of Chicago Harper Dissertation Fellow	2016 - 2017
NSF Graduate Research Fellow	2013 - 2016
University of Chicago McCormick Fellow	2012 - 2014
Phi Beta Kappa	2012

OBSERVING TIME

PI & lead observer at Keck/HIRES (NASA time)	4 half-nights, 2017
PI of NASA Spitzer program	15.4 hours, Cycle-12 (2016)
Lead observer at ESO La Silla/HARPS	47 nights, 2013 - 2017
Observer at Keck/HIRES	2 half-nights, 2015
Observer at KPNO/WIYN 0.9m	3 nights, November 2011
Lead observer at Maria Mitchell Observatory/Loines 24-inch	40 nights, July - Sept. 2010

INVITED SEMINARS

Princeton, Computational Astrophysics Workshop Series	May 2018
Vanderbilt, Astro Seminar	April 2018
Max-Planck-Institut für Astronomie, PSF Coffee	August 2017
Harvard CfA, Stars & Planets Seminar	November 2016
MIT, Exoplanet Tea	November 2016

TEACHING & MENTORSHIP

Research supervisor to Angus Beane, Flatiron CCA intern (1 publication resulting)	2018
Guest Lecturer, Columbia University	2018
Mentor, UChicago Women in Physics and Astronomy	2014 - 2016

Guest Lecturer, Universidade de São Paulo	2015
TA, University of Chicago	2012 - 2013

OUTREACH

Invited speaker, NYC Astronomy on Tap	2018
Co-founder, Chicago Astronomy on Tap	2016 - 2017
Presenter, Chicago Life Long Learning	2015 - 2017
Presenter, Adler Planetarium Space Visualization Lab	2014 - 2017
Public Observing Coordinator, Haverford College	2009 - 2012

OTHER PROFESSIONAL ACTIVITIES

Gaia-Kepler crossmatch database (https://gaia-kepler.fun), used in 6 publications to date	
Science Organizing Committee, <i>TESS Preparatory Workshop</i>	2018
Time Allocation Committee, <i>Transiting Exoplanet Survey Satellite</i>	2017
Science Organizing Committee, <i>Precision Spectroscopy</i>	2017
Referee for AAS, MNRAS journals	2015 - present

PRESS

[“Next to its solar twins, the sun stands out,”](#) Science News article, 2018.
[“Astronomers discover dark past of planet-eating ‘Death Star,’”](#) UChicago press release, 2016.
[“Jupiter Twin Discovered Around Solar Twin,”](#) ESO press release, 2015, covered by Associated Press, Discovery News, Space.com, and others.
[“Oldest Solar Twin Identified,”](#) ESO press release, 2013, covered by Science News, Space.com, and others.

PUBLICATION LIST

REFEREED PAPERS

1. Beane, A., Ness, M., & **Bedell, M.**, *Actions are weak stellar age indicators in the Milky Way disk*, 2018, ApJ in press, arXiv:1807.05986.
2. Spina, L., Meléndez, J., Karakas, A. I., et al., *The temporal evolution of neutron-capture elements in the Galactic discs*, 2018, MNRAS, 474, 2580.
3. **Bedell, M.**, Bean, J.L., Meléndez, J., et al., *The Chemical Homogeneity of Sun-like Stars in the Solar Neighborhood*, ApJ in press, arXiv:1802.02576
4. dos Santos, L., Meléndez, J., **Bedell, M.**, et al., *Spectroscopic binaries in the Solar Twin Planet Search program: from substellar-mass to M dwarf companions*, 2017, MNRAS, 472, 3425
5. Gandolfi, D., Barragán, O., Hatzes, A. P., et al., *The Transiting Multi-planet System HD 3167: A 5.7 M_E Super-Earth and an 8.3 M_E Mini-Neptune*, 2017, AJ, 154, 123
6. **Bedell, M.**, Bean, J.L., Meléndez, J., et al., *Kepler-11 is a Solar Twin: Revising the Masses and Radii of Benchmark Planets via Precise Stellar Characterization*, 2017, ApJ 839, 94
7. Malik, M., Grosheintz, L., Mendonça, J. M., et al., *HELIOS: An Open-Source, GPU-Accelerated Radiative Transfer Code For Self-Consistent Exoplanetary Atmospheres*, 2017, AJ 153, 56
8. Meléndez, J., **Bedell, M.**, Bean, J.L., et al., *The Solar Twin Planet Search V. Close-in, low-mass planet candidates and evidence of planet accretion in the solar twin HIP 68468*, 2017, A&A 597, A34
9. Barragán, O., Grziwa, S., Gandolfi, D., et al., *EPIC 211391664b: A 32- M_{\oplus} Neptune-sized planet in a 10-day orbit transiting an F8 star*, 2016, AJ 152, 193
10. dos Santos, L.A., Meléndez, J., do Nascimento, J.-D., Jr., **Bedell, M.**, et al., *The Solar Twin Planet Search IV. The Sun as a typical rotator and evidence for a new rotational braking law for Sun-like stars*, 2016, A&A 592, A156
11. Tucci Maia, M., Ramírez, I., Meléndez, J., **Bedell, M.**, et al., *The Solar Twin Planet Search III. The [Y/Mg] clock: estimating stellar ages of solar type stars*, 2016, A&A 590, A32
12. **Bedell, M.**, Meléndez, J., Bean, J.L., et al., *The Solar Twin Planet Search II. A Jupiter twin around a solar twin*, 2015, A&A 581, A34
13. **Bedell, M.**, Meléndez, J., Bean, J.L., et al., *Stellar Chemical Abundances: In Pursuit of the Highest Achievable Precision*, 2014, ApJ 795, 23
14. Ramírez, I., Meléndez, J., Bean, J.L., et al., *The Solar Twin Planet Search I. Fundamental parameters of the stellar sample*, 2014, A&A 572, A48
15. Meléndez, J., Ramírez, I., Karakas, A., et al., *18 Sco: a solar twin rich in refractory and neutron-capture elements. Implications for chemical tagging*, 2014, ApJ 791, 14
16. Monroe, T., Meléndez, J., Ramírez, I., et al., *High Precision Abundances of the Old Solar Twin HIP 102152: Insights on Li Depletion from the Oldest Sun*, 2013, ApJ 773, L32
17. **Bedell, M.**, Villaume, A, et al., *Monitoring $H\alpha$ Emission and Continuum of UXORs: RR Tauri*, 2011, AJ 142, 164

INVITED REVIEWS

1. Meléndez, J., Bean, J. L., **Bedell, M.**, et al., 2015, The Messenger, 161, 28