JENNIFER SOBECK

CONTACT

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RESEARCH INTERESTS

Stellar Populations ; Chemodynamical Evolution ; Nucleosynthesis ; Fundamental Stellar Astrophysical Parameters ; Spectroscopy

Large-Scale Astronomical Surveys ; Data-Driven Analysis ; Open and Reproducible Research Practices

EDUCATION

PhD in Physics – University of Texas at Austin — 2007
An Atomic Physics Viewpoint of Stellar Abundance Analysis

MS in Physics – University of Texas at Austin — 2004
Gas Phase Enthalpy Difference Between the Two Conformers of n-Butane

BS in Physics – University of Texas at Austin

RESEARCH POSITIONS

MSE System Scientist — Feb 2021 – Present
Maunakea Spectroscopic Explorer ; Canada France Hawaii Telescope

SDSS-IV Project Manager for APOGEE-2 & LCO Operations — Nov 2018 – Feb 2021
Sloan Digital Sky Survey IV

Senior Research Scientist — Mar 2017 – Feb 2021
Department of Astronomy, University of Washington

APOGEE-2 Project Manager/Deputy Project Manager — Oct 2013 – Nov 2018
Sloan Digital Sky Survey IV

Senior Scientist/Research Associate — Oct 2013 – Mar 2017
Department of Astronomy, University of Virginia

External Postdoctoral Scholar — Jan 2012 – Dec 2013
Department of Astronomy and Astrophysics, University of Chicago

CNRS Postdoctoral Scholar — Dec 2011 – Jan 2013
Laboratoire Lagrange, Observatoire de la Cote d'Azur

Kavli Institute for Cosmological Physics Associate Fellow — Jun 2010 – Dec 2012
Department of Astronomy and Astrophysics, University of Chicago

JINA Postdoctoral Scholar — Oct 2008 – Dec 2011
Joint Institute for Nuclear Astrophysics
Department of Astronomy and Astrophysics, University of Chicago

DGDF Postdoctoral Fellow — 2007, 2008
European Southern Observatory, Garching, Germany

TEACHING POSITIONS

Assistant Instructor — 2020, 2022, 2023
Software Carpentry

Guest Lecturer — 2018, 2019
Department of Astronomy, University of Washington

Assistant Instructor — 2004 – 2005
Department of Astronomy, University of Texas at Austin

Assistant Instructor — 2003 – 2004
Department of Physics, University of Texas at Austin

Teaching Assistant — 2000 – 2003
Department of Physics, University of Texas at Austin

Grants and Awards

SDSS-IV Architect	2020
e-Science Institute Incubator Project (PI)	2018
NSF Astronomy and Astrophysics Research Grants (Collab/Co-I)	AST 0607708, 0907732, 1715898
Sloan Foundation Grant (Collaborator/Co-I)	2013, 2015
University of Virginia Center for Global Inquiry & Innovation Grant (Co-I)	2015
STScI Hubble Space Telescope Approved GO/AR Program Grants (Co-I)	Cycles 18, 19, 20, 23

Publications

Overview :

To date, I have 185 Astronomy- and Physics-related publications (90 Refereed ; 95 Non-Refereed). NASA ADS Author Query (Link)

Selected Publications :

[1] Hayes, C. R., Masseron, T., Sobeck, J. S., et al. 2022, ApJSS, 262, 34H [doi:10.3847/1538-4365/ac839f]
"BACCHUS Analysis of Weak Lines in APOGEE Spectra (BAWLAS)"
[2] Beaton, R. L., Oelkers, R. J., Hayes, C. R., Covey, K. R., Chojnowski, S. D., De Lee, N., Sobeck, J. S., et al. 2021, AJ, 162, 302 [doi:10.3847/1538-3881/ac260c]
"Final Targeting Strategy for the Sloan Digital Sky Survey IV Apache Point Observatory Galactic Evolution Experiment 2 North Survey"
[3] Johnson, J. A., Zasowski, G., Weinberg, D., Ting, Y.S., Sobeck, J., et al. 2019, arXiv :1907.04388
"The Origin of Elements Across Cosmic Time : Astro2020 Science White Paper"
[4] Sobeck, J. S., Kraft, R. P., Sneden, C., et al. 2011, AJ, 141, 175 [doi:10.1088/0004-6256/141/6/175] [code] *"The Abundances of Neutron-capture Species in the Very Metal-poor Globular Cluster M15 : A Uniform Analysis of Red Giant Branch and Red Horizontal Branch Stars"*

Talks and Presentations

Overview :

I have given more than 50 presentations on a variety of subjects (science, survey planning/management, teaching, instrumentation, software/coding, and outreach) in multiple forums over my career.

Selected Talks :

Invited Discussion/Moderator, Supporting Computational Science with Rubin LSST	2023
Invited Talk, LSST Project and Community Workshop	2022
Project Presentation, eScience Institute, University of Washington	2018
Talk, Google (Seattle)	2017
Colloquium, University of Washington	2017
Invited Talk, AAS Winter Meeting	2015

Observing and Instrumentation

Apache Point Observatory – 2.5-m Sloan Foundation Telescope and 1.0-m NMSU Telescope
European Southern Observatory – 8.0-m Very Large Telescope (Kuyeun)
Hubble Space Telescope – STIS Instrument
Kitt Peak National Observatory – 1.6-m McMath-Pierce Telescope
Las Campanas Observatory – 6.5-m Magellan Telescope and 2.5-m Irenee du Pont Telescope
McDonald Observatory – 9.2-m Hobby-Eberly Telescope, 2.7-m Harlan J. Smith Telescope
University of Wisconsin Madison, Lawler Laboratory – LIF Experiment
University of Virginia, Infrared Instrumentation Laboratory – Spectrograph Build & Commissioning

Research Mentorship

Postdoctoral Researchers : C. Hayes (UW), G. Damke (UVa), N. Shane (UVa)
Graduate Students : Y. Kim (UChicago)
Undergraduate Students : D. Hunt (UW), G. Schafer (UW), J. Skipper (UVa), M. Alvarez (UT Austin)

Skills

Programming	*Proficient :* Python, IDL, Fortran *Familiar :* R, Matlab, Mathematica, C++
Software	*Proficient :* LaTeX, Unix, Git *Familiar :* SQL, Solidworks
Languages	English *(fluent)*, French *(proficient)*

Software Contributions

MOOG (url)
Sneden, C., Bean, J., Ivans, I., Lucatello, S., & Sobeck, Jennifer, MOOG : LTE Line Analysis and Spectrum Synthesis, Astrophysics Source Code Library, 2009 (2012ascl.soft02009S)

Professional Affiliations

ARC Centre of Excellence for All Sky Astrophysics in 3 Dimensions (ASTRO 3D)	2020 – Present
eScience Institute at the University of Washington	2018 – Present
Large Synoptic Survey Telescope	2014 – Present
Sloan Digital Sky Survey	2009 – Present

Service

NSF AAG Proposal Review Panelist
NSF AAPF Proposal Review Panelist
NASA APRA-SAT Proposal Review Panelist and Panel Chair
STScI HST Proposal Review Panelist
Astrophysical Journal Referee
Astrophysical Letters Journal Referee
Astronomy & Astrophysics Referee
Journal of Physics B : Atomic, Molecular & Optical Physics Referee
Monthly Notices of the Royal Astronomical Society Referee
United States Congressional Visits Day, Science, Engineering, & Technology

Outreach

MAGIC (More Active Girls in Computing) Mentor
Skype a Scientist
SDSS-IV Education and Public Outreach (EPO) and Faculty and Student Team (FAST)
SDSS-IV Committee on Inclusiveness in SDSS (COINS)
SDSS Plates for Education
Astro on Tap, University of Washington
UW in the High School : Astronomy Training for Teachers, University of Washington
Public Night Program at McCormick and Fan Mountain Observatories, University of Virginia
Dark Skies Bright Kids, University of Virginia
Space Visualization Laboratory, Adler Planetarium
Space Explorers, University of Chicago

Professional Societies

American Astronomical Society
American Physical Society
Canadian Astronomical Society
International Astronomical Union

References

Dr. Michael Blanton (NYU)	michael.blanton@gmail.com
Dr. Steven Majewski (UVa)	srm4n@virginia.edu
Dr. Chris Sneden (UT Austin)	chris@astro.as.utexas.edu
Dr. Sam Barden (CFHT)	barden@cfht.hawaii.edu