Devin D. Whitten

Ph D. Candidate - Graduate Research Assistant in Astrophysics

Contact

Full Name	**Devin Daniel Whitten**
Address	225 Nieuwland Science Hall Notre Dame, IN 46556
Phone	+1 (219) 242-0110
Website	https://devinwhitten.github.io
Email	dwhitten@nd.edu

Education

2015–Present	**Ph D. Candidate - Astrophysics** University of Notre Dame Advisor: Prof. Timothy C. Beers | Co-advisor: Dr. Vinicius M. Placco Thesis: Constraints on the Milky Way Halo Formation and Chemical Evolution
2015–2019	**Master of Science** University of Notre Dame
2011–2015	**BS - Computational Physics** Purdue University Calumet - Hammond, IN Minors in Computer Science and Applied Mathematics

Employment

2016–Present	**Graduate Research Assistant** Department of Physics, University of Notre Dame
Jun–Aug '18	**Teaching Assistant and Residential Mentor** Summer Science Program (SSP), New Mexico Tech
2015–2017	**Physics Laboratory Assistant** Notre Dame Department of Physics
Jun–Aug '15	**Teaching Assistant and Residential Mentor** Summer Science Program (SSP), New Mexico Tech
2012–2015	**Physics I & II Supplemental Instructor** Purdue University Calumet

Honors & Grants

2018	**Notebaert Professional Development Award** University of Notre Dame
2017	**Notebaert Professional Development Award** University of Notre Dame
2016–2017	**Faculty Research Support Program Initiation Grant** University of Notre Dame

2017	**GPS Conference Presentation Grant**
	University of Notre Dame
2016	**GPS Conference Presentation Grant**
	University of Notre Dame
2013–2015	**Chancellor's List** (numerous semesters)
	Purdue University Calumet
2014	**Sigma Xi Student Research Award**
	Purdue University Calumet
2014	**Department of Chemistry & Physics Outstanding Student Award**
	Purdue University Calumet
2013	**Indiana Space Grant**
	Purdue University Calumet

Presentations

Talks

Oct 2019	**Astrophysics Seminar - University of Notre Dame**
	Constraining Milky Way Formation with Large-sky Astronomical Surveys
	Notre Dame, IN - **Invited**
May 2019	**Chungnam National University**
	Galactic Archaeology in the Era of Narrow-band Photometric Surveys
	Daejeon, South Korea - **Invited**
May 2019	**Korea Astronomy and Space Science Institute**
	Galactic Archaeology in the Era of Narrow-band Photometric Surveys
	Daejeon, South Korea - **Invited**
July 2018	**Summer Science Program**
	Topics in Modern Astronomy and Astrophysics
	New Mexico Tech, USA - **Invited**
May 2018	**J-PAS 16th Collaboration Meeting**
	Stellar Parameter Determination with J-PLUS/J-PAS
	CEFCA, Spain - **Invited**
May 2018	**JINA-CEE Frontiers in Nuclear Astrophysics**
	Photometric Stellar Parameter Determination with SPHINX
	Notre Dame, IN
Dec 2017	**Our Universe Revealed: The Science of Music**
	Notre Dame, IN
Oct 2017	**Early Data Release and Scientific Exploitation of the J-PLUS Survey**
	Stellar Parameter Determination with J-PLUS using Artificial Neural Networks
	CEFCA, Spain

Posters

Dec 2018	**Stellar Archaeology as a Time Machine to the First Stars**
	Kavli IPMU, Japan
Nov 2018	**XXX IAC Winter School of Astrophysics**
	Universidad de La Laguna, Tenerife, Spain
Sep 2017	**Graduate Physics Society Annual Conference**
	Notre Dame, IN

Aug 2017	**IAU Symposium 334 - Rediscovering our Galaxy** Potsdam, Germany
Feb 2017	**JINA-CEE Frontiers in Nuclear Astrophysics** Michigan State University, MI
Nov 2016	**GPS Annual Conference** Notre Dame, IN
Aug 2016	**First Stars V Conference** Heidlberg, Germany
Mar 2016	**JINA-CEE Frontiers in Nuclear Astrophysics** Notre Dame, IN
April 2015	**PUC Student Research Day** Purdue University Calumet, IN

▬▬ Memberships

2016–Current	**Javalambre Physics of the Accelerating Universe Survey**
2016–Current	**Javalambre Photometric Local Universe Survey**
2016–Current	**Southern Photometric Local Universe Survey**
2015–Current	**Joint Institute of Nuclear Astrophysics - Center for the Evolution of the Elements**
2018	**JINA-CEE Frontiers 2018 Organizing Committee**
2016–Current	**Summer Science Program - Young Members Subcommittee**
2017	**Graduate Physics Society Executive Board** - *Notre Dame*
2014–Current	**Society for Industrial and Applied Mathematics**
2014–Current	**Sigma Xi : The Scientific Research Honor Society**
2014–Current	**American Astronomical Society**

▬▬ Press Releases

2017	**Students in right place, right time witness first-ever detected neutron star collision**
2017	**Live interview on neutron star merger detection**

▬▬ Outreach

April 2019	**Science Cafe** *South Bend Brew Worksy* South Bend IN
Feb 2018	**Science Alive** *St. Joseph County Public Library* South Bend IN
Dec 2017	**Our Universe Revealed: The Science of Music** *Notre Dame, IN*
May 2016	**Astroblast!** *Jordan Hall of Science* Notre Dame IN

▬▬ Mentorships

2019	**Winter Allan** *Arkansas Tech University - REU*
2019	**Yihao Zhou** *Shanghai Jiao Tong University - REU*
2017	**Jazmine Jefferson** *University of Kansas - REU*
2015-2018	**Spencer Clark** *University of Notre Dame - Glynn Family Honors Program*

Computer skills

Linux/Unix/MACOSX/Windows

Shell: sh/bash

Python, iPython, Jupyter Notebooks : scipy, numpy, pandas, scikitlearn, keras, pyfits, astropy

Graphics: Matplotlib, vPython, Kivy, Tkinter

Web: html, wordpress, wget, ssh, ftp

Online Resources

Webpage: https://devinwhitten.github.io

LinkedIn: https://www.linkedin.com/in/devin-whitten/

GitHub: https://github.com/DevinWhitten

Researchgate: https://www.researchgate.net/profile/Devin_Whitten

Devin D. Whitten

Publication List

Refereed

[**] **Whitten, D. D.**, Beers, T. C., Placco, V. M., et al. **2019b**, *Constraints on the Galactic Inner Halo Assembly History from the Age Gradient of Blue Horizontal-Branch Stars*
The Astrophysical Journal, 884, 67, doi: 10.3847/1538-4357/ab4269 (ADS link)

[**] **Whitten, D. D.**, Placco, V. M., Beers, T. C., et al. **2019a**, *J-PLUS: Identification of low-metallicity stars with artificial neural networks using SPHINX*
Astronomy & Astrophysics, 622, 18, doi: 10.1051/0004-6361/201833368 (ADS link)

[**] Yoon, J., **Whitten, D. D.**, Beers, T. C., et al. **submitted**, *The First Identification of the Group III CEMP star in Satellite Dwarf Galaxy Canes Venatici I*
The Astrophysical Journal (ADS link)

[9] Zhen, Y., Myeong, G. C., Beers, T. C., ... **Whitten, D. D.**, et al. **submitted**, *Dynamical Relics of the Ancient Galactic Halo*
The Astrophysical Journal (ADS link)

[8] Yoon, J., Beers, T. C., Tian, Di, **Whitten, D. D.**, et al. **2019**, *Origin of the CEMP-no Group Morphology in the Milky Way*
The Astrophysical Journal, 878, 2 (ADS link)

[7] Placco, V. M., Santucci, R. M., Beers, T. C., ... **Whitten, D. D.**, **2019**, *The R-Process Alliance: Spectroscopic Follow-up of Low-metallicity Star Candidates from the Best & Brightest Survey*
The Astrophysical Journal, 870, 2, doi: 10.3847/1538-4357/aaf3b9 (ADS link)

[6] Mendes de Oliveira, C., Ribeiro, T., Schoenell, W., ... **Whitten, D. D.**, et al. **2019**, *The Southern Photometric Local Universe Survey (S-PLUS): improved SEDs, morphologies, and redshifts with 12 optical filters*
Monthly Notices of the Royal Astronomical Society, 489, 1, doi: 10.1093/mnras/stz1985 (ADS link)

[5] Placco, V. M., Beers, T. C., Santucci, R. M., ... **Whitten, D. D.**, **2018**, *Spectroscopic Validation of Low-Metallicity Stars from RAVE*
Astronomy & Astrophysics, 155, 16, doi: 10.3847/1538-3881/aac20c (ADS link)

[4] Cenarro Lagunas, J., Moles, M., Cristóbal-Hornillos, D., ... **Whitten, D. D.**, et al. **2018**, *J-PLUS: The Javalambre Photometric Local Universe Survey*
Astronomy & Astrophysics, 622, 25, doi: 10.1051/0004-6361/201833036 (ADS link)

[3] López-Sanjuan, C., Víazquez Ramió, H., Varela, J., ... **Whitten, D. D.**, et al. **2018**, *J-PLUS: Morphological star/galaxy classification by PDF analysis*
Astronomy & Astrophysics, 662, 14, doi: 10.1051/0004-6361/201732480 (ADS link)

[2] López-Sanjuan C., Varela, J., Cristóbal-Hornillos, D., ... **Whitten, D. D.**, et al. **in press**, *J-PLUS: photometric calibration of large area multi-filter surveys with stellar and white dwarf loci*
Astronomy & Astrophysics (ADS link)

[1] Drout, M. R., Piro, A. L., Shappee, B. J., ... **Whitten, D. D. 2017**, *Light Curves of the Neutron Star Merger GW170817/SSS17a: Implications for R-Process Nucleosynthesis*
Science, 358, 1570, doi: 10.1126/science.aaq0049 (ADS link)

In Preparation

Whitten, D. D., Yoon, J., Beers, T. C., et al. **in prep.**, *On the Classification and Carbon Abundance Determination of Cool Carbon-enhanced Metal-Poor Stars using Bayesian Spectral Matching*

Whitten, D. D., Placco, V. M., Beers, T. C., et al. **in prep.**, *Photometric Determination of Carbon Abundance and Metallicity Distribution Functions of the Galactic Halo using Artificial Neural Networks*

Conference Proceedings/Abstracts

[4] **Whitten, D. D.**, Placco, V. M., Beers, T. C., Clark, S., and Ederoclite, A. **2018**. *Probing Galactic Chemical Evolution with J-PLUS Photometry*, IAU Symposium, 334, 383-384, doi: 10.1017/S1743921317011590

[3] Yoon, J., **Whitten, D. D.**, Beers,et al. **2017**, *Lifting the Veil on Ultra Metal-Poor Stars in the Outermost Halo*, Proceedings of the International Astronomical Union, 13(S334), 389-390. doi:10.1017/S174392131700792X

[2] **Whitten, D. D. 2017**, *Stellar Parameter Determination with J-PLUS Using Artificial Neural Networks*, Zenodo. http://doi.org/10.5281/zenodo.1039836

[1] Vázquez Ramió, H. and Cristóbal-Hornillos, D., Ederoclite, A., **Whitten, D. D.**, et al. **2017**, *Identification of RR Lyrae stars in the Javalambre Photometric Local Universe Survey*, Highlights on Spanish Astrophysics X

Software

[2] **Whitten, D. D. 2018**, *Gaussian Inflection Spline Interpolation Continuum*
https://pypi.org/project/GISIC/

[1] **Whitten, D. D. 2018**, *Stellar Photometric Index Network Explorer*
https://github.com/DevinWhitten/SPHINX

Minor Planet Center Submissions

[3] Huizenga, D., Rengstorf, A.W., Slavin, S.D., **Whitten, D. D.**& Pavel, J. **2013**, *New Observations of Potentially Hazardous Asteroid 1999 CF9 (137126)*, M.P.S.484639.

[2] Huizenga, D., Rengstorf, A.W., Slavin, S.D., **Whitten, D. D.**& Pavel, J. **2013**, *New Observations of Potentially Hazardous Asteroid 2005 GE59 (250620)*, M.P.S. 488236/M.P.C. 85829

[1] Huizenga, D., Rengstorf, A.W., Slavin, S.D., **Whitten, D. D.** & Pavel, J. **2013**, *New Observations of Potentially Hazardous Asteroid Midas (01981)*, M.P.S. 490156/M.P.C. 86225.