

# Gail Zasowski

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## Research Interests

- Characterizing stellar populations with photometry and high resolution spectroscopy
- Tracing interstellar material with optical, IR, and radio spectroscopy
- Developing statistical techniques for the analysis of large, high dimensional datasets
- Connecting studies of resolved and unresolved stellar populations
- Optimizing the design and operation of large collaborative surveys

## Appointments and Research Experience

- Assistant Professor • 2017 to present
  - The University of Utah
- SDSS-V Spokesperson • 2017 to present
- Barry M. Lasker Data Science Research Fellow • 2016 to 2017
  - Space Telescope Science Institute
- Postdoctoral Fellow • 2015 to 2016
  - Johns Hopkins University
- NSF Astronomy & Astrophysics Postdoctoral Fellow • 2012 to 2015
  - The Ohio State University and Johns Hopkins University
- Architect of the Sloan Digital Sky Survey (SDSS) • 2011 to present
- NASA Earth & Space Science Graduate Research Fellow • 2009 to 2012
  - Adviser: Steven R. Majewski, University of Virginia
- University of Virginia Presidential Graduate Research Fellow • 2005 to 2009
  - Advisers: Ciska Kemper and Steven R. Majewski, University of Virginia

## Education

- Ph.D.*, Astronomy • 2012  
University of Virginia, Charlottesville, VA 22904  
Thesis: *Infrared Extinction and Stellar Structures in the Milky Way Midplane*
- M.S.*, Astronomy • 2007  
University of Virginia, Charlottesville, VA 22904
- B.S.*, Physics • 2005  
University of Tennessee, Knoxville, TN 37996  
Additional Major: Latin — Minor: Astronomy

## Publication Summary

I have 104 refereed publications, with 7,826 refereed citations, and an *h*-index of 52. Please see the Refereed Publications section below for the full list.

## Honors and Awards

- Early Career Teaching Award, University of Utah • 2022
- Cottrell Scholar, Research Corporation for Science Advancement • 2021
- Award for Teaching Excellence, College of Science, University of Utah • 2021
- Scialog Fellow, Research Corporation for Science Advancement • 2018 & 2019
- STScI Lasker Data Science Research Fellowship • 2016 to 2017
- NSF Astronomy & Astrophysics Postdoctoral Fellowship • 2012 to 2015
- Visiting Fellow, OSU Center for Cosmology and AstroParticle Physics • 2012 to 2013
- Architect of the Sloan Digital Sky Survey (SDSS) • 2011 to present
- American Astronomical Society Rodger Doxsey Prize • 2011
- University of Virginia Dissertation Acceleration Fellowship • 2010
- NASA Earth and Space Science Fellowship • 2009 to 2012
- University of Virginia Presidential Research Fellowship • 2005 to 2009

## Awarded Grants and Observing Time

- *Understanding the Chemical Enrichment of Our Universe: Unifying Evidence from the Milky Way and Other Galaxies* (Cottrell Scholar Award) • 2021, Research Corporation for Science Advancement (\$100,000)
- *Resolving the Milky Way's Global Star Formation History* (PI) • 2020, National Science Foundation (\$205,498)
- *A Pioneering Test of Stellar Population Complexity Outside the Milky Way* (Co-PI) • 2019, National Science Foundation (\$277,000)
- *Inferring Stellar Population Ages from Integrated Light Curves* (PI) • 2019, Heising-Simons Foundation (\$55,000)
- *A Gaia-Enabled View of Chemical Homogeneity* (PI) • 2018, Research Corporation for Science Advancement (\$49,500)
- *Mapping Explosive Enrichment* (PI) • 2018, Heising-Simons Foundation (\$55,000)
- *SDSS-V Spokesperson* • 2017, Astrophysical Research Consortium (\$70,000)
- *Identifying Complex Stellar Populations in Integrated Starlight* (PI) • 2017, APOGEE (12,500 fiber-hours)
- *A Study of Gas Flows and Structure Formation in the Milky Way* (Co-I) • 2016, NSF
- *The Scorpius Galaxy Cluster: Mapping a Merger in a Newly Discovered 9 keV Cluster* (Co-I) • 2015, XMM-Newton (112 ks)
- *Verification of Newly Identified Galactic Open Cluster Candidates* (Co-I) • 2013, Magellan telescope (5 nights)
- *Open Clusters in the Outer Disk: Fabrication of Slit Masks for APO+DIS* (Co-I) • 2013, Sigma Xi (\$1400)
- *Probing Newly-Discovered and Poorly-Studied Open Clusters in the Outer Milky Way I & II* (Co-I) • 2013-2014, APOGEE (270 fiber-hours)
- *Measuring the Kinematics and Stellar Populations of the Galactic Long Bar* (PI) • 2012, APOGEE (675 fiber-hours)

## Research Group

### Postdoctoral Researchers

- Dr. Nicholas Boardman (2017–2021), Dr. Sten Hasselquist (NSF Fellow; 2018–2021), Dr. Jianhui Lian (2019–2021)

### Graduate Students

- *Present*: Benjamin Gibson, Kameron Goold, Amaya Sinha, Joe Summers, Aldan McBride
- *Former*: Vijith Jacob Poovelil (PhD 2021), Aishwarya Ashok (MS 2020)

### Undergraduate & Post-Baccalaureate Students

- *Present*: Kenny Goler, Ashley Merrell, Tobin Wainer
- *Former*: Kameron Goold, Galen Bergsten, Austin King, Olivia Cooper, Sage Yeager, Zane Gerber

## Professional Memberships and Service

- Reviewer for NASA ADAP, NSF AAPF, NASA HFP, *HST* TAC, and FONDECYT
- Referee for *ApJ*, *AJ*, *A&A*, and *Astronomy & Computing*
- SOC, KCF@80 Milky Way Conference • 2022 (orig. 2020)
- SOC, SDSS Collaboration Meeting • 2019 to 2021
- SOC Chair, SDSS-V Team Meeting • 2019
- SOC Co-Chair, *The Life and Times of the Milky Way* • 2018
- SOC, *Astronomy & Cosmology in the 2020s* (SnowPAC workshop) • 2018
- SDSS-V Spokesperson and Central Project Office Member • 2017 to present
- MAST Users Group, Member • 2016 to 2018
- STScI Bayes Lunch Discussion Group, Organizer • 2016 to 2017
- NSF Astronomy & Astrophysics Postdoctoral Fellows' Symposium, Organizer • 2015
- SafeZone Training for JHU Physics & Astronomy, Organizer • 2015
- AAS Chambliss Student Poster Award, Judge • 2013 to present
- Committee on the Participation of Women in SDSS, Member • 2012 to 2016
- American Astronomical Society, Member • 2009 to present

## Selected Recent Invited Seminars

- University of Illinois Urbana-Champaign, Champaign, IL, USA • 2021
- Washington State University, Pullman, WA, USA • 2021
- Dunlap Institute, University of Toronto, Toronto, ON, Canada • 2020
- Iowa State University, Ames, IA, USA • 2020
- Utah Center for Data Science Seminar Series, SLC, UT, USA • 2020
- University of California–Santa Cruz, Santa Cruz, CA, USA • 2019
- University of Toledo, Toledo, OH, USA • 2019
- Columbia University, New York, NY, USA • 2019
- The Mitchell Institute at Texas A&M University, College Station, TX, USA • 2018
- Montana State University, Bozeman, MT, USA • 2018
- NOAO / Steward Observatory, Tucson, AZ, USA • 2016
- New Mexico State University, Las Cruces, NM, USA • 2016
- University of Victoria, Victoria, BC, Canada • 2016
- University of Wisconsin, Madison, WI, USA • 2016
- University of Pittsburgh, Pittsburgh, PA, USA • 2016
- Case Western Reserve University, Cleveland, OH, USA • 2015
- Hiroshima University, Hiroshima, Japan • 2015

## Education Experience

- Assistant Professor*, U of U Department of Physics & Astronomy • 2017 to present
- Graduate-level stellar astrophysics (ASTR 5560)
  - Graduate-level galaxies (ASTR 5570)
  - Senior-level stellar astrophysics (PHYS/ASTR 4090)
  - Calculus-based introductory astrophysics (PHYS/ASTR 2500)
- Research Mentor*, JHU Department of Physics & Astronomy • 2016
- Advised an undergraduate research project, developed science and software tutorial modules, and taught basic professional skills.
- Research Mentor*, UVa Department of Astronomy • 2011 to 2014
- Mentored post-graduate and undergraduate research projects, developed science and software tutorial modules, and taught basic professional skills.
- Instructor*, UVa Department of Astronomy • 2010
- Instructor for “Introduction to the Sky and Solar System”, an introductory level course for non-science majors.
- Research Mentor*, Central Virginia Governor's School • 2009 to 2012
- Mentored projects for high school students in a STEM research course, developed research curriculum and assessment scheme, wrote science and software tutorial modules, and guided development of professional skills.
- Guest Lecturer*, UVa Department of Astronomy • 2009 to 2012
- Taught sessions of “Introduction to Astronomy Research”, a seminar for declared and prospective astronomy & astrophysics majors.

## Selected Press & Outreach Initiatives

- SDSS-V Press Releases led
- 2022, [SDSS-V's Robots Turn Their Eyes To The Sky](#)
  - 2021, [“Serving Up The Universe On A Plate”](#)
  - 2020, [“Next-Gen Astronomical Survey Makes Its First Observations Towards A New Understanding of the Cosmos”](#)
  - 2017, [“Next Generation Astronomical Survey to Map the Entire Sky”](#)
- Ruckman Public Lecture*, University of Nebraska • 2020
- Astronomy Education Workshop, University of Nebraska • 2020
- “Educational Activities using SDSS Plates”
- Interchange IT Podcast, guest • 2018
- [“Out Of This World Space Facts”](#)
  - [“Flat Earthers and Conspiracy Theories!”](#)

University Profile • 2018

- Faculty Spotlight

*Frontiers of Science* Public Lecture Series, University of Utah • 2020

*SDSS Science Blog*, guest blogger • 2015

- “How SDSS Uses Mysterious “Missing Light” to Map the Interstellar Medium”

*Women in Astronomy*, guest blogger • 2015

- “Addressing Gender Bias in the SDSS Collaboration”

*Public talks*

- In addition to those listed above: events at Utah's Taft-Nicholson Center, Astro on Tap in Washington D.C., UVa's Leander McCormick Observatory, and numerous amateur astronomical societies

*Ohio 4-H AstroCamp* • 2013 to 2016

- Space science summer camp for middle school students, focusing on hands-on investigative activities.

*“Dark Skies, Bright Kids”* (DSBK) Outreach Program • 2009 to 2013

- Founding volunteer for DSBK, an after-school science education program at disadvantaged rural elementary schools.

### Selected First-Author Conference Presentations

- *An IR View of Stellar Populations in the Local Group*, 2020, The Local Group: Assembly and Evolution, virtual meeting hosted by STScI in Baltimore, MD, USA.
- *SDSS-V: Panoptic Spectroscopy*, 2019, Milky Way 2019: LAMOST and Other Leading Surveys, Yichang, China, invited talk.
- *Two Decades (and Counting!) of Exploration with the Sloan Digital Sky Survey*, 2019, AAPT Summer Meeting, Provo, UT, USA, invited talk.
- *APOGEE in the Post-GaiaDR2 Era*, 2019, Stars Without Borders: A Galaxy in Crisis, Ljubljana, Slovenia, invited talk.
- *Galaxy Evolution and the High-Dimensional ISM*, 2019, Dynamical Models for Stars and Gas in Galaxies in the Gaia Era (KITP workshop), Santa Barbara, CA, USA.
- *Stellar Chemodynamics in the Inner Milky Way and Beyond*, 2018, The Galactic Bulge at the Crossroads, Pucón, Chile.
- *The Milky Way's Disks*, 2018, Chemical Evolution and Nucleosynthesis Across the Galaxy, Heidelberg, Germany, invited talk.
- *Exploring Galaxy Evolution with the High-Dimensional ISM*, 2018, Cosmic Dust: Origin, Applications, and Implications, Copenhagen, Denmark, invited talk.
- *Milky Way Structure and Evolution in the 2020s*, 2018, Big Questions, Big Surveys, Big Data: Astronomy & Cosmology in the 2020s (SnowPAC 2018), Snowbird, Utah, USA, invited plenary talk.
- *New Insights Into the Inner Milky Way*, 2018, Microlensing 22, Auckland, New Zealand, invited talk.
- *Bulges 101: The Milky Way and Beyond*, 2017, SDSS-IV Collaboration Meeting, Santiago, Chile, invited plenary talk.
- Large Surveys of the Great Andromeda Galaxy, 2017, Lorentz Center workshop, Leiden, The Netherlands, invited workshop.
- *Diffuse Interstellar Bands: A New Hope*, 2017, The ISM Beyond 3D,  $\Psi^2$  program at Paris-Saclay University, Paris, France, invited workshop.
- *The SDSS: Beyond All Anticipation*, 2017, Detecting the Unexpected workshop, Baltimore, MD, USA.
- *Chemodynamics in the Heart of the Milky Way*, 2016, Galactic Archeology and Stellar Physics (GASP), Canberra, Australia.
- Industrial Revolution in Galactic Archeology, 2016, Sexten Center for Astrophysics workshop, Sesto, Italy, invited workshop.
- *Chemodynamics of the Milky Way Bulge*, 2016, SDSS-IV Collaboration Meeting, Madison, WI, USA.

- *The Multi-D ISM*, 2016, Astrophysics at Mayacamas III, Calistoga, CA, USA, invited workshop.
- *Chemodynamics in the Heart of the Milky Way*, 2015, SDSS-IV Collaboration Meeting, Madrid, Spain, plenary talk.
- *Tracing Galactic Dust Kinematics with the Diffuse Interstellar Bands*, 2015, EWASS 2015: “Getting Ready for Gaia: 3D Structure of the ISM”, Tenerife, Spain, invited talk (Memorie Della Società Astronomica Italiana, 86, 521).
- Galactic Archeology and Precision Stellar Astrophysics, 2015, Kavli Institute for Theoretical Physics workshop, Santa Barbara, CA, USA.
- *Exploring the Galactic ISM with Infrared Absorption Features*, 2015, APOGEE Special Session, 225<sup>th</sup> AAS Meeting, Seattle, WA, USA, invited talk.
- *Dust in the Milky Way and Local Group*, 2014, Wide-field InfraRed Surveys: Science and Techniques, Pasadena, CA, USA, invited talk.
- *Dust: Fundamentals and Extinction*, 2014, Astrophysical Calibration of Gaia and Other Surveys workshop, Ringberg Castle, Munich, Germany, invited talk.
- *Field & Targeting Strategies in APOGEE-2*, 2014, SDSS-IV/APOGEE-2 Pre-Survey Review, UNAM, Mexico City, Mexico, invited talk.
- *Probing Galactic Structure with Near-Infrared Diffuse Interstellar Bands*, 2013, The Life Cycle of Dust in the Universe, ASIAA, Taipei, Taiwan.
- *Evaluating the Kepler Input Catalog Extinction Model: Temperatures, Reddening, and Distances*, 2013, Asteroseismology of Stellar Populations in the Milky Way, Sesto, Italy, invited talk (Astrophysics and Space Science Proceedings; arXiv:1409.2273).
- *Tracing the Diffuse Interstellar Medium in APOGEE Spectra*, 2013, SDSS-III Collaboration Meeting, Baltimore, MD, USA, invited plenary talk.
- *Exploring the Outer Milky Way Disk*, 2013, “Outer Limits of the Milky Way” Meeting-in-a-Meeting, 222<sup>nd</sup> AAS Meeting, Indianapolis, IN, USA, invited talk.
- *Near-IR DIBs in APOGEE Spectra*, 2013, IAU Symposium 297: “Diffuse Interstellar Bands”, Noordwijkerhout, The Netherlands (Proc. of the IAU Symp., 297, 68).
- *A New Perspective on Mapping the Inner Galaxy*, 2011, Assembling the Puzzle of the Milky Way Conference, Le Grand-Bornand, France (EPJ Web of Conference, Volume 19, id.06006, 19, 6006).
- *Exploring Extinction and Structure in the Milky Way Disk with 2MASS and Spitzer*, 2009, IAU Special Session: The Galactic Plane, Rio de Janeiro, Brazil.

**Refereed Publications**  
 (\* indicates student/postdoc advisees)

- N. Boardman\*, **G. Zasowski**, et al., *How well do local relations predict gas-phase metallicity gradients? Results from SDSS-IV MaNGA*, submitted to MNRAS.
- J. Lian\*, **G. Zasowski**, et al., 2022, *Quantifying radial migration in the Milky Way: Inefficient over short timescales but essential to the outer disc*, accepted to MNRAS (arXiv:2202.08846).
- Abdurro'uf, . . . , **G. Zasowski**, et al. (alphabetical), 2022, *The Seventeenth Data Release of the Sloan Digital Sky Surveys: Complete Release of MaNGA, MaStar and APOGEE-2 Data*, accepted to ApJS (arXiv:2112.02026).
- C. Fielder, J. A. Newman, B. H. Andrews, **G. Zasowski**, et al., 2021, *Constraining the Milky Way's Ultraviolet to Infrared SED with Gaussian Process Regression*, MNRAS, 508, 4459 (arXiv:2106.14900).
- S. Hasselquist\*, C. R. Hayes, J. Lian\*, D. H. Weinberg, **G. Zasowski**, et al., 2021, *APOGEE Chemical Abundance Patterns of the Massive Milky Way Satellites*, ApJ, 923, 172 (arXiv:2109.05130).
- F. Nikakhtar, . . . , **G. Zasowski**, et al., 2021, *New families in our Solar neighborhood: applying Gaussian Mixture models for objective classification of structures in the Milky Way and in simulations*, ApJ, 921, 106 (arXiv:2104.08394).
- A. Ashok\*, **G. Zasowski**, et al., 2021, *The APOGEE Library of Infrared SSP Templates (A-LIST): High-Resolution Simple Stellar Population Spectral Models in the H-Band*, AJ, 161, 167 (arXiv:2012.15773).

- F.A. Santana, . . . , **G. Zasowski**, et al., 2021, *Final Targeting Strategy for the SDSS-IV APOGEE-2S Survey*, AJ, 162, 303 (arXiv:2108.11908).
- R.L. Beaton, . . . , **G. Zasowski**, et al., 2021, *Final Targeting Strategy for the Sloan Digital Sky Survey IV Apache Point Observatory Galactic Evolution Experiment 2 North Survey*, AJ, 162, 302 (arXiv:2108.11907).
- A.B.A. Queiroz, . . . , & **G. Zasowski**, 2021, *The Milky Way bar and bulge revealed by APOGEE and Gaia EDR3*, A&A, 656, 156 (arXiv:2007.12915).
- A. M. Price-Whelan, . . . , & **G. Zasowski**, 2021, *Orbital Torus Imaging: Using Element Abundances to Map Orbits and Mass in the Milky Way*, ApJ, 910, 17 (arXiv:2012.00015).
- N. Boardman\*, **G. Zasowski**, et al., 2021, *Galaxy Gas-Phase Metallicity Gradients Vary Across the Mass–Size Plane*, MNRAS, 501, 948 (arXiv:2012.02362).
- J. Lian\*, **G. Zasowski**, et al., 2021, *The chemical properties of the Milky Way’s on-bar and off-bar regions: evidence for inhomogeneous star formation history in the bulge*, MNRAS, 500, 282 (arXiv:2008.03320).
- V. J. Poovelil\*, **G. Zasowski**, et al., 2020, *Open Cluster Chemical Homogeneity Throughout the Milky Way*, ApJ, 903, 55 (arXiv:2009.06777).
- A. Rojas-Arriagada, **G. Zasowski**, et al., 2020, *How Many Components? Quantifying the Complexity of the Metallicity Distribution in the Milky Way Bulge with APOGEE*, MNRAS, 499, 1037 (arXiv:2007.13967).
- N. Boardman\*, **G. Zasowski**, et al., 2020, *Are the Milky Way and Andromeda unusual? A comparison with Milky Way and Andromeda Analogs*, MNRAS, 498, 4943 (arXiv:2009.02576).
- M. Schultheis, . . . , **G. Zasowski**, et al., 2020, *Cool stars in the Galactic center as seen by APOGEE. M giants, AGB stars, and supergiant stars and candidates*, A&A, 642, 81 (arXiv:2008.13687).
- S. Hasselquist\*, **G. Zasowski**, et al., 2020, *Exploring the Stellar Age Distribution of the Milky Way Bulge Using APOGEE*, ApJ, 901, 109 (arXiv:2008.03603).
- J. Lian\*, **G. Zasowski**, et al., 2020, *The Milky Way’s bulge star formation history as constrained from its bimodal chemical abundance distribution*, MNRAS, 497, 3557 (arXiv:2007.12179).
- D. K. Krishnarao, . . . , **G. Zasowski**, et al., 2020, *The Effect of Bars on the Ionized ISM: Optical Emission Lines from Milky Way Analogs*, ApJ, 898, 116 (arXiv:2007.01874).
- N. Boardman\*, **G. Zasowski**, et al., 2020, *Milky Way Analogues in MaNGA: Multiparameter Homogeneity and Comparison to the Milky Way*, MNRAS, 491, 3672 (arXiv:1910.12896).
- R. Ahumada, . . . , **G. Zasowski**, et al. (alphabetical), 2020, *The 16th Data Release of the Sloan Digital Sky Surveys: First Release from the APOGEE-2 Southern Survey and Full Release of eBOSS Spectra*, ApJS, 249, 3 (arXiv:1912.02905).
- J. Donor, . . . , & **G. Zasowski**, 2020, *The Open Cluster Chemical Abundances and Mapping Survey. IV. Abundances for 128 Open Clusters Using SDSS/APOGEE DR16*, AJ, 159, 199 (arXiv:2002.08980).
- J. T. Mackereth, . . . , & **G. Zasowski**, 2019, *Dynamical heating across the Milky Way disc using APOGEE and Gaia*, MNRAS, 489, 176 (arXiv:1901.04502).
- **G. Zasowski** et al., 2019, *APOGEE DR14/DR15 Abundances in the Inner Milky Way*, ApJ, 870, 138 (arXiv:1811.01097).
- A. Rojas-Arriagada, M. Zoccali, M. Schultheis, A. Recio-Blanco, **G. Zasowski**, et al., 2019, *The Bimodal [Mg/Fe] vs [Fe/H] Bulge Sequence*, A&A, 626, 16 (arXiv:1905.01364).
- R. Yan, . . . , **G. Zasowski**, et al., 2019, *SDSS-IV MaStar: A Large and Comprehensive Empirical Stellar Spectral Library—First Release*, ApJ, 883, 175 (arXiv:1812.02745).
- J. G. Fernández-Trincado, . . . , **G. Zasowski**, et al. (alphabetical), 2019, *H-band discovery of additional second-generation stars in the Galactic bulge globular cluster NGC 6522 as observed by APOGEE and Gaia*, A&A, 627, 178 (arXiv:1801.07136).
- D. S. Aguado, . . . , **G. Zasowski**, et al., 2019, *The Fifteenth Data Release of the Sloan Digital Sky Surveys: First Release of MaNGA-Derived Quantities, Data Visualization Tools, and Stellar Library*, ApJS, 240, 23 (arXiv:1812.02759).

- K. Tchernyshyov, J. E. G. Peek, & **G. Zasowski**, 2018, *Kinetic Tomography. II. A Second Method for Mapping the Velocity Field of the Milky Way Interstellar Medium and a Comparison with Spiral Structure Models*, AJ, 156, 248 (arXiv:1808.01286).
- I. Reis, D. Poznanski, D. Baron, **G. Zasowski**, et al., 2018, *Detecting Outliers and Learning Complex Structures with Large Spectroscopic Surveys – A Case Study with APOGEE Stars*, MNRAS, 476, 2117 (arXiv:1711.00022).
- J. Donor, P. M. Frinchaboy, K. Cunha, B. Thompson, J. O'Connell, **G. Zasowski**, et al., 2018, *The Open Cluster Chemical Abundances and Mapping Survey. II. Precision Cluster Abundances for APOGEE Using SDSS DR14*, AJ, 156, 142 (arXiv:1807.09791).
- J. A. Holtzman, . . . , & **G. Zasowski**, 2018, *APOGEE Data Releases 13 and 14: Data and Analysis*, AJ, 156, 125 (arXiv:1807.09773).
- J. Schiappacasse-Ulloa, . . . , **G. Zasowski**, et al., 2018, *A Chemical and Kinematical Analysis of the Intermediate-age Open Cluster IC 166*, AJ, 156, 94 (arXiv:1806.09575).
- P. A. Palicio, . . . , **G. Zasowski**, et al., 2018, *Signatures of the Galactic Bar on Stellar Kinematics*, MNRAS, 478, 1231 (arXiv:1805.04347).
- J. Cottle, . . . , **G. Zasowski**, et al., 2018, *The APOGEE-2 Survey of the Orion Star-forming Complex. I. Target Selection and Validation with Early Observations*, ApJS, 236, 27 (arXiv:1804.06484).
- B. Abolfathi, . . . , **G. Zasowski**, et al. (alphabetical), 2018, *The Fourteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the Extended Baryon Oscillation Spectroscopic Survey and from the Second Phase of the Apache Point Observatory Galactic Evolution Experiment*, ApJS, 235, 42 (arXiv:1707.09322).
- D. Souto, . . . , **G. Zasowski**, et al., 2018, *Chemical Abundances of Main-sequence, Turnoff, Subgiant, and Red Giant Stars from APOGEE Spectra. I. Signatures of Diffusion in the Open Cluster M67*, ApJ, 857, 14 (arXiv:1803.04461).
- C. Badenes, . . . , & **G. Zasowski**, 2018, *Stellar Multiplicity Meets Stellar Evolution and Metallicity: The APOGEE View*, ApJ, 854, 147 (arXiv:1711.00660).
- M. K. Ness, . . . , **G. Zasowski**, et al., 2018, *Galactic Doppelgängers: The Chemical Similarity Among Field Stars and Among Stars with a Common Birth Origin*, ApJ, 853, 198 (arXiv:1701.07829).
- A. E. García Pérez, . . . , **G. Zasowski**, et al., 2018, *The Bulge Metallicity Distribution from the APOGEE Survey*, ApJ, 852, 91 (arXiv:1712.01297).
- **G. Zasowski** et al., 2017, *Target Selection for the SDSS-IV APOGEE-2 Survey*, AJ, 154, 198 (arXiv:1708.00155).
- J. T. Mackereth, J. Bovy, R. P. Schiavon, **G. Zasowski**, et al., 2017, *The Age-Metallicity Structure of the Milky Way Disc Using APOGEE*, MNRAS, 471, 3057 (arXiv:1706.00018).
- F. D. Albareti, . . . , **G. Zasowski**, et al. (alphabetical), 2017, *The 13th Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-IV Survey Mapping Nearby Galaxies at Apache Point Observatory*, ApJS, 233, 25 (arXiv:1608.02013).
- R. P. Schiavon, J. A. Johnson, P. M. Frinchaboy, **G. Zasowski**, et al., 2017, *APOGEE Chemical Abundances of Globular Cluster Giants in the Inner Galaxy*, MNRAS, 466, 1010 (arXiv:1611.03086).
- J. Tayar, . . . , **G. Zasowski**, et al., 2017, *The Correlation between Mixing Length and Metallicity on the Giant Branch: Implications for Ages in the Gaia Era*, ApJ, 840, 17 (arXiv:1704.01164).
- Y. Zhou, . . . , **G. Zasowski**, et al., 2017, *Chemical Abundances and Ages of the Bulge Stars in APOGEE High-velocity Peaks*, ApJ, 847, 74 (arXiv:1708.05160).
- S. T. Linden, . . . , & **G. Zasowski**, 2017, *Timing the Evolution of the Galactic Disk with NGC 6791: An Open Cluster with Peculiar High- $\alpha$  Chemistry as Seen by APOGEE*, ApJ, 842, 49 (arXiv:1704.07305).
- M. R. Blanton, . . . , **G. Zasowski**, et al., 2017, *Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies, and the Distant Universe*, AJ, 154, 28 (arXiv:1703.00052).

- S. D. Chojnowski, . . . , & **G. Zasowski**, 2017, *High-resolution H-band Spectroscopy of Be Stars with SDSS-III/APOGEE. II. Line Profile and Radial Velocity Variability*, 2017, AJ, 153, 174.
- K. Cunha, . . . , **G. Zasowski**, et al., 2017, *Adding the s-Process Element Cerium to the APOGEE Survey: Identification and Characterization of Ce II Lines in the H-band Spectral Window*, ApJ, 844, 145.
- S. R. Majewski, . . . , **G. Zasowski**, et al., 2017, *The Apache Point Observatory Galactic Evolution Experiment (APOGEE)*, AJ, 154, 94 (arXiv:1509.05420).
- R. P. Schiavon, . . . , & **G. Zasowski**, 2017, *Chemical tagging with APOGEE: Discovery of a large population of N-rich stars in the inner Galaxy*, MNRAS, 465, 501 (arXiv:1606.05651).
- M. Schultheis, . . . , & **G. Zasowski**, 2017, *Baade's Window and APOGEE. Metallicities, Ages, and Chemical Abundances*, 2017, A&A, 600, 14 (arXiv:1702.01547).
- J. G. Fernández-Trincado, . . . , **G. Zasowski**, et al., *Atypical Mg-poor Milky Way Field Stars with Globular Cluster Second-generation-like Chemical Patterns*, ApJ, 846, 2 (arXiv:1707.03108).
- F. Anders, . . . , & **G. Zasowski**, 2017, *Galactic Archaeology with Asteroseismology and Spectroscopy: Red Giants Observed by CoRoT and APOGEE*, A&A, 597, 30 (arXiv:1604.07763).
- **G. Zasowski** et al., 2016, *Kinematics in the Galactic Bulge with APOGEE: II. High-Order Kinematical Moments and Comparison to Extragalactic Bar Diagnostics*, ApJ, 832, 132 (arXiv:1609.07512).
- J. G. Fernández-Trincado, . . . , **G. Zasowski**, et al., 2016, *Discovery of a Metal-Poor Field Giant with a Globular Cluster Second-Generation Abundance Pattern*, ApJ, 833, 132 (arXiv:1604.01279).
- K. Cunha, P. M. Frinchaboy, D. Souto, B. Thompson, **G. Zasowski**, et al., 2016, *Chemical abundance gradients from open clusters in the Milky Way disk: Results from the APOGEE survey*, AN, 337, 922 (arXiv:1601.03099).
- A. E. García Pérez, . . . , & **G. Zasowski**, 2016, *ASPCAP: The APOGEE Stellar Parameter and Chemical Abundances Pipeline*, AJ, 151, 144 (arXiv:1510.07635).
- M. K. Ness, **G. Zasowski**, et al., 2016, *Overview of the Kinematics of the Galactic Bulge as Mapped by APOGEE*, ApJ, 819, 2 (arXiv:1512.04948).
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