Samson A. Johnson   **Curriculum Vitae**   September 2, 2020

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Education

The Ohio State University   Columbus, Ohio, 2016-2021 (expected)

− PhD Student in Astronomy

  Dean's Distinguished University Fellowship
  Roman Galactic Exoplanet Survey Science Investigation Team
  Jet Propulsion Lab Summer Internship Program
  NSF GRFP Honorable Mention 2016

University of Montana, Davidson Honors College   Missoula, Montana, 2011-2015

− BA in Physics, BA in Mathematics, High Honors

  Montana University System Honors Scholarship
  Horatio Alger Montana Undergraduate Scholarship
  Jack and Isabel Haynes Scholarship
  Cail Physical/Bio-Sciences Scholarship
  Shallenberger/Alumni Association Scholarship in Physics

Publications

First Author

1. *Predictions of the Nancy Grace Roman Space Telescope Galactic Exoplanet Survey II: Free-Floating Planet Detection Rates*
   Johnson, S. A., Penny, M. T., Gaudi, B. S., et al. 2020, AJ, 160, 123

2. *The Quiescent Progenitors of Type II Supernovae*
   Johnson, S. A., Kochanek, C. S., Adams, S. M., 2018, MNRAS, 480, 1696

3. *On the Progenitor of the Type Ibc Supernova 2012fh*
   Johnson, S. A., Kochanek, C. S., Adams, S. M., 2017, MNRAS, 472, 3115

4. *The Radial Velocity of OGLE-2015-BLG-0966S*
   Johnson, S. A., Yee, J. C., 2017, PASP, 129, 074401

Coauthor:

1. *A Full Implementation of Spectro-Perfectionism for Precise Radial Velocity Exoplanet Detection: A Test Case With the MINERVA Reduction Pipeline*
   Cornachione, M. A., Bolton, A. S.; Eastman, J. D., et al, 2019, PASP, 131, 124503

2. *Minerva-Australis. I. Design, Commissioning, and First Photometric Results*
   Addison, B., Wright, D. J., Wittenmyer, R. A., et al. 2019, PASP, 131, 115003

3. *First Radial Velocity Results From the MINiature Exoplanet Radial Velocity Array (MINERVA)*
   Wilson, M. L., Eastman, J. D., Cornachione, M. A., et al. 2019, PASP, 131, 115001

4. *KELT-22Ab: A Massive, Short-Period Hot Jupiter Transiting a Near-solar Twin*
   Labadie-Bartz, J., Rodriguez, J. E., Stassun, K. G., et al. 2019, ApJS, 240, 13

5. *KELT-19Ab: A...Hot Jupiter Transiting a Likely Am Star with a Distant Stellar Companion*
   Siverd, R. J., Collins, K. A., Zhou, G., et al. 2018, AJ, 155, 35

6. *KELT-20b: A giant planet with a period of P∼3.5 days transiting the...early A star HD 185603*
   Lund, M. B., Rodriguez, J. E., Zhou, G., et al. 2017, AJ, 154, 194

7. *The Mysterious Dimmings of the T Tauri Star V1334 Tau*
   Rodriguez, J. E., Zhou, G., Cargile, P. A., et al. 2017, ApJ, 836, 209

Non-refereed:

1. *Measurement of the Free-Floating Planet Mass Function with Simultaneous Euclid and WFIRST Microlensing Parallax Observations*
   Penny, M. T., Bachelet, E., Johnson, S. A., et al., Astro2020 Decadal Survey White Paper

2. *The Scientific Context of WFIRST, Microlensing in the 2020s*
   Yee, J. et al, Astro2020 Decadal Survey White Paper

Employment

Research Assistant, Harvard-Smithsonian Center for Astrophysics   Aug. 2015-July 2016

- Refined site operation software for MINERVA robotic exoplanet detection telescope array
- Developed software for automation of precision RV spectrograph

Research Assistant, University of Montana   June 2014-June 2015

- Designed and tested dispatch scheduling software/simulation for use with MINERVA

Laboratory Assistant, University of Montana   Winter 2011, Summer 2013

- Assembled vacuum chambers, handled vacuum specific hardware
- Designed, constructed framework for vacuum pumps and chambers

Advising

- Abigail Aronica (undergraduate), *The Ohio State University, 2019* Refined galactic model for use in microlensing survey simulations.
- Kit Fieldhouse (high school), *University of Montana, 2015:* Developed a program to automate follow-up observation scheduling of transiting planet candidates. Employed in KELT follow-up, and presented at national science fairs.

Teaching/Mentoring

- Ohio State, Polaris Mentor of undergraduates S. Petz, C. Roper (2019-2020), A. Isadore (2020-2021)
- Ohio State, Methods of Astronomical Observation & Data Analysis (Astron 3350, GTA 2018)
- Ohio State, Life in the Universe (Astron 1141, GTA 2019)
- Ohio State, From Planets to the Cosmos: Lab Section (Astron 1150, GTA 2019)

Service

- Referee for ApJ
- Ohio State University

    - Assistant in graduate admissions, spring 2020
    - Graduate student chair of graduate admissions, spring 2019
    - Graduate student chair for feedback in astronomy faculty search, spring 2018
    - Made a lot of coffee

Outreach

- Polaris Mentor 2019-2021 (group enhancing retention of underrepresented undergraduates in physics/astronomy)
- Academic Facilitator for URSA 2021 (early arrival program associated with Polaris, designed curriculum on exoplanets, experimentation, metacognition)
- Mentor for new astronomy graduate students at Ohio State University (2019-2020)
- Friends of Ohio State Astronomy, volunteer for 6 events, 2017-2019

- Graduate Order of Magnitude group, co-founder, 2017-2019, Columbus, Ohio
- Breakfast of Science Champions, coordinator and volunteer, 11/2017, 11/2018 - Columbus, Ohio
- Ohio Supercomputer Center Summer Institute 07/2017, mentor - Columbus, Ohio
- Science Olympiad, Astronomy portion exam proctor, 04/2017 - Columbus, Ohio
- Astronomy on Tap lecture, 2017 - Columbus, Ohio
- Blue Mountain Observatory public viewing nights, assistant for 3 nights, 2014 - Missoula, Montana
- Society of Physics Students member, 2013-2015 - Missoula, Montana

Observing Experience

- MINERVA, Mt Hopkins, Arizona - 4x0.7 meter, 9 weeks on site
- CTIO, La Serena, Chile, - SMARTS 1.3 meter, 14 nights of microlensing observing
- Large Binocular Telescope, Mt Graham, Arizona - 2x8.4 meter, 10 nights queue
- Tillinghast Telescope, Mt Hopkins, Arizona - 1.5 meter, 2 nights queue

Conferences and Workshops

- *The Roman Galactic Exoplanet Survey: Predictions for the Free-Floating Planet Detection Rate*
  NExScI Exoplanet Demographics, 11/2020, 15 min talk
- *The Roman Galactic Exoplanet Survey: Prospects for Constraining the Frequency of Earth-Analogs*
  Bay Area Exoplanet Meeting 34, 09/2020, 20 min talk
- *The WFIRST Microlensing Survey: Constraints on the frequency of Earth-analogs*
  Exoplanets III, 08/2020, 15 min talk
- 2019 Sagan Summer Workshop: Astrobiology for Astronomers, 07/2019, Attendee
- *The WFIRST Microlensing Survey: Predictions of the Free Floating Planet Detection Rate*,
  Science in Our Own Backyard: Exploring the Galaxy...with WFIRST, 06/2019, 15 min talk
- *The WFIRST microlensing survey: mission updates and predictions of the free-floating planet yield*
  23rd International Microlensing Conference, 01/2019, 15 min talk
- *Measuring the abundance of free floating planets with WFIRST*,
  Emerging Researchers in Exoplanet Science IV, 08/2018, 15 minute talk
- Sagan Summer Workshop: Microlensing in the Era of WFIRST, 07/2017, Attendee
- *Synopsis of the MINiature Exoplanet Radial Velocity Array (MINERVA)*,
  Emerging Researchers in Exoplanet Science III, 07/2017, 15 minute talk
- *Dispatch Scheduling to Maximize Exoplanet Detection*,
  SPIE Astronomical Telescopes + Instrumentation, 07/2016, 15 minute talk
- *Dispatch Scheduling to Maximize Exoplanet Detection*,
  American Astronomical Society 2016 Winter meeting, poster
- *Optimization of the MINERVA Exoplanet Search Strategy via Simulations*,
  American Astronomical Society 2015 Winter meeting, poster

Seminars

- *The Roman Galactic Exoplanet Survey: Prospects for Constraining the Frequency of Earth-Analogs*
  Sept. 8, 2020. Harvard-Smithsonian Center for Astrophysics GCSP Seminar, 20 min talk
- *The Secret Lives of Neutrinos: Oscillations and Mass Differences*
  Apr. 10, 2015. Physics and Astronomy Seminar, University of Montana.
- *Dispatch Scheduling to Maximize Exoplanet Yield*
  Nov. 7, 2014. Physics and Astronomy Seminar, University of Montana.

Media

- [Unveiling Rogue Planets With NASAs Roman Space Telescope](#)
  Feature on nasa.gov, [cnn.com](#) and others 08/21/2020
- [Discovering the Unseen: Ohio State and NASA Work Together to Find New Exoplanets](#)
  The Lantern, 02/28/2019

Non-technical Employment

Good Food Store, Missoula, MT   **April 2012-Oct. 2013**

 – Deli and beverage bar staff, customer service, teamwork, task management
 – Received multiple commendations on helpfulness and safety

The Huckleberry People, Missoula, MT   **Sept. 2011-April 2012**

 – Production based job working in warehouse environment
 – Time management, order assembly, manual dexterity

Papa Murphy's Pizza, Missoula, MT   **July 2009-Sept. 2011**

 – Supervisor position, delegating tasks to crews of 5-10 members
 – Customer service, money handling, problem solving, conflict resolution