Drew Weisserman

Early-Career Astronomer

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Education

2025—present **PhD in Physics and Astronomy**, *McMaster University*, Hamilton, ON, CA
GPA: *4.00/4.00*

2023—2025 **MSc in Physics and Astronomy**, *McMaster University*, Hamilton, ON, CA
GPA: *4.00/4.00*, Thesis: *Super-Earth Masses and Stellar Abundances from NIRPS Reveal Tentative Evidence for Water-Rich Formation around M Dwarfs*

2019–2023 **BSc in Interdisciplinary Astronomy (with Highest Honors), Data Science, Interdisciplinary Physics**, *University of Michigan*, Ann Arbor, MI
GPA: *3.73/4.00*, Thesis: *Kepler-80 Revisited: Assessing the Participation of a Newly Discovered Planet in the Resonant Chain*

Research Experience

January 2025 – Present **Graduate Researcher**, *McMaster University*, Hamilton, ON
Worked under mentorship of Dr. Ryan Cloutier to characterize hot Jupiters around M dwarfs. Led series of observing proposals on MAROON-X spectrograph to measure obliquities of these planets. Identified evidence of these hot Jupiters being aligned, detailed in Weisserman et al. (2025).

September 2023 – Present **Graduate Researcher**, *McMaster University*, Hamilton, ON
Worked under mentorship of Dr. Ryan Cloutier to analyze hot rocky super-Earths around M dwarfs. Led CMF subprogram of the Near Infra Red Planet Searcher (NIRPS), which conducted an intensive radial velocity observation campaign to measure ultra-precise masses of transiting super-Earths and compute stellar abundances. Estimated planetary compositions using state-of-the-art planetary interior structure models and identified tentative evidence of iron depletion in our planetary sample, detailed in a submitted first-author paper.

January 2022 – May 2023 **Undergraduate Researcher**, *University of Michigan*, Ann Arbor, MI
Worked under mentorship of Dr. John Monnier to analyze photometry of images from the Rapid Eye Mount (REM) telescope and obtain magnitude estimates for variable young stellar objects (YSOs). Developed pipeline to perform photometry on saturated images as well as correct astrometry in FITS files in the process.

April 2021 – May 2022 **Undergraduate Researcher**, *University of Michigan*, Ann Arbor, MI
Worked under mentorship of Dr. Sally Oey to estimate orbital parameters of pairs of eclipsing binary Oe/Be stars in the Small Magellanic Cloud. Used photometric data from the TESS satellite to survey and identify eclipsing binary candidates to better understand binary supermassive star formation pathways. Resulted in significant contribution to Vargas-Salazar et al. (2025).

September 2019 – November 2022 **Undergraduate Researcher**, *University of Michigan*, Ann Arbor, MI
Worked under mentorship of Dr. Juliette Becker to analyze Kepler-80 planetary system, a system of six tightly packed inner planets in resonance. Analyzed the effect of a newly discovered planet on the long-term stability of the star system to understand more about how tightly-packed planetary systems form. Resulted in a first-author paper, Weisserman et al. (2023).

January 2016 – January 2017 **Early-Career Researcher**, *California Institute of Technology*, Pasadena, CA
Worked on a team led by Dr. Luisa Rebull that analyzed data in the X-ray, optical, and IR spectrums in order to identify young stellar objects (YSOs) in the nebula Cepheus OB3. Studied and developed over 27,000 spectral energy distributions and color-magnitude diagrams; identified 246 YSOs in order to learn more about the star formation in the region.

First-Author Publications

Drew Weisserman, Nicole Gromek, Ryan Cloutier, Komal Bali, Charles Cadieux et al. *Super-Earth Masses and Stellar Abundances from NIRPS Reveal Tentative Evidence for Water-Rich Formation around M Dwarfs.* A&A, accepted.

Drew Weisserman, Erik Gillis, Ryan Cloutier, Nina Brown, Jacob L. Bean et al. *Aligned Stellar Obliquities for Two Hot Jupiter-hosting M Dwarfs Revealed by MAROON-X: Implications for Hot Jupiter Formation.* AJ, 170, 313. December 2025.

Drew Weisserman, Juliette Becker, and Andrew Vanderburg. *Kepler-80 Revisited: Assessing the Participation of a Newly Discovered Planet in the Resonant Chain.* AJ, 165, 89. March 2023.

Contributing-Author Publications

Alexandra Rochon, Étienne Artigau, **Drew Weisserman**, Lisa Dang, René Doyon et al. *Reanalysis of the eclipses of LHS 1140 c: No evidence of an atmosphere and implications for the internal structure of the planet.* ApJL, 998, 2, L39. February 2026.

Pierrot Lamontagne, **Drew Weisserman**, Charles Cadieux, David Lafrenière, Alexandrine L'Heureux et al. *NIRPS Tightens the Mass Estimate of GJ 3090 b and Detects a Planet Near the Stellar Rotation Period.* A&A, 706, A278. February 2026.

Irene Vargas-Salazar, M. S. Oey, Jan J. Eldridge, **Drew Weisserman**, Helen C. Januszewski et al. *New Field OB and OBe Binaries of the SMC Wing: Observational Properties and Population Modeling.* ApJ, 988, 146. August 2025.

Sara Seager, Mary Knapp, Brice-Olivier Demory, Akshata Krishnamurthy, Chelsea X. Huang et al., including **Drew Weisserman**. *HD 219134 Revisited: Planet d Transit Upper Limit and Planet f Transit Nondetection with ASTERIA and TESS.* AJ, 161, 117. March 2021.

Coauthor Publications

Avidaan Srivastava, René Doyon, François Bouchy, Charles Cadieux, Nicole Gromek et al., including **Drew Weisserman**. *TOI-4552 b: A new ultra-short period rocky world revealed by NIRPS and TESS.* A&A, submitted.

Ares Osborn, Ryan Cloutier, Vincent Bourrier, Bennett Neil Skinner, Nicole Gromek et al., including **Drew Weisserman**. *Confirmation of the hot super-Neptune TOI-672 b with NIRPS and HARPS.* A&A, 709, A23. April 2026.

Valentina Vaulato, Melissa J. Hobson, Romain Allart, Stefan Pelletier, Joost P. Wardenier et al., including **Drew Weisserman**. *Atmospheric composition and circulation of the ultra-hot Jupiter WASP-121b with joint NIRPS, HARPS and CRIRES+ transit spectroscopy.* A&A, 703, A251. November 2025.

Léna Parc, François Bouchy, Neil J. Cook, Nolan Grieves, Étienne Artigau et al, including **Drew Weisserman**. *NIRPS and TESS reveal a peculiar system around the M dwarf TOI-756: A transiting sub-Neptune and a cold eccentric giant.* A&A, 702, A138. October 2025.

Charles Cadieux, Alexandrine L'Heureux, Caroline Piaulet-Ghorayeb, René Doyon, Étienne Artigau et al., including **Drew Weisserman**. *Detailed Architecture of the L 98-59 System and Confirmation of a Fifth Planet in the Habitable Zone.* A&A, 170, 154. September 2025.

Luc Bazinet, Romain Allart, Björn Benneke, Stefan Pelletier, Joost P. Wardenier et al., including **Drew Weisserman**. *Quantifying thermal water dissociation in the dayside photosphere of WASP-121 b using NIRPS.* A&A, 701, A276. September 2025.

João Gomes da Silva, Elisa Delgado-Mena, Nuno C. Santos, Telmo Monteiro, Pierre Larue et al., including **Drew Weisserman**. *Blind search for activity-sensitive lines in the near-infrared using HARPS and NIRPS observations of Proxima and Gl 581.* A&A, 700, A177. August 2025.

François Bouchy, René Doyon, Francesco Pepe, Claudio Melo, Étienne Artigau et al., including **Drew Weisserman**. *NIRPS joining HARPS at ESO 3.6 m: On-sky performance and science objectives.* A&A, 700, A10. August 2025.

Valentina Vaulato, Stefan Pelletier, David Ehrenreich, Romain Allart, Eduardo Cristo et al., including **Drew Weisserman**. *Hydride ion continuum hides absorption signatures in the NIRPS near-infrared transmission spectrum of the ultra-hot gas giant WASP-189b.* A&A, 700, A9. August 2025.

Romain Allart, Yann Carteret, Vincent Bourrier, Lucile Mignon, Frédérique Baron et al. including **Drew Weisserman**. *NIRPS detection of delayed atmospheric escape from the warm and misaligned Saturn-mass exoplanet WASP-69 b.* A&A, 700, A7. August 2025.

Alejandro Suárez-Mascareño, Étienne Artigau, Lucile Mignon, Xavier Delfosse, Neil J. Cook et al., including **Drew Weisserman**. *Diving into the planetary system of Proxima with NIRPS: Breaking the metre per second barrier in the infrared.* A&A, 700, A11. July 2025.

Presentations

May 2026	**McMaster-Waterloo Exoplanet Meeting**, Waterloo, ON, Talk "Aligned Stellar Obliquities for Four Hot Jupiter-hosting M Dwarfs Revealed by MAROON-X and Their Implications for Hot Jupiter Formation"
May 2026	**McMaster-Waterloo Exoplanet Meeting**, Waterloo, ON, Talk "Super-Earth Masses and Stellar Abundances from NIRPS Reveal Tentative Evidence for Water-Rich Formation around M Dwarfs"
January 2026	**Rocky Worlds 4**, Groningen, ND, Talk "Super-Earth Masses and Stellar Abundances from NIRPS Reveal Tentative Evidence for Water-Rich Formation around M Dwarfs"
November 2025	**McMaster-Waterloo Exoplanet Meeting**, Hamilton, ON, Talk "Super-Earth Masses and Stellar Abundances from NIRPS Reveal Tentative Evidence for Water-Rich Formation around M Dwarfs"
June 2025	**From Stars to Life**, Hamilton, ON, Talk "Ultra-Precise Super-Earth Masses from NIRPS Reveal Tentative Evidence for Water-Rich Formation Around M Dwarfs"
June 2025	**The Sixth Workshop on Extremely Precise Radial Velocities**, Porto, PT, Poster "Ultra-Precise Super-Earth Masses from NIRPS Reveal Tentative Evidence for Water-Rich Formation Around M Dwarfs"
June 2025	**Emerging Researchers in Exoplanet Science Symposium X**, Princeton, NJ, Talk "Ultra-Precise Super-Earth Masses from NIRPS Reveal Tentative Evidence for Water-Rich Formation"
May 2025	**NIRPS Science Team Meeting**, Virtual, Talk "Obtaining Precise and Accurate Masses of super-Earths around M Dwarfs"
November 2024	**NIRPS Science Team Meeting**, Grenoble, FR, Talk "Obtaining Precise and Accurate Masses of super-Earths around M Dwarfs"
October 2024	**McMaster Physics & Astronomy Symposium Day**, Hamilton, ON, Talk "Obtaining Precise and Accurate Masses of super-Earths around M Dwarfs"
July 2024	**9th Emerging Researchers in Exoplanet Science Conference**, Ithaca, NY, Talk "Obtaining Precise and Accurate Masses of super-Earths around M Dwarfs"
June 2024	**55th meeting of the Canadian Astronomical Society**, Toronto, ON, Poster "Obtaining Precise and Accurate Masses of super-Earths around M Dwarfs"
April 2024	**NIRPS Science Team Meeting**, Montreal, QC, Talk "Obtaining Precise and Accurate Masses of Super-Earths around M Dwarfs"

May 2023 **54th meeting of the Division of Dynamical Astronomy**, East Lansing, MI, Poster
"Kepler-80 Revisited: Assessing the Participation of a Newly Discovered Planet in the Resonant Chain"

April 2023 **Michigan Astronomy Undergraduate Research Symposium**, Ann Arbor, MI, Poster
"Visible and Near-Infrared Monitoring of Variable Young Stars"

August 2022 **7th Emerging Researchers in Exoplanet Science Conference**, State College, PA, Talk
"Kepler-80 Revisited: How a Newly Discovered Planet Changes the Dynamical Character of the System"

April 2022 **Michigan Astronomy Undergraduate Research Symposium**, Ann Arbor, MI, Poster
"Massive Photometric Variable Stars in the Small Magellanic Cloud"

November 2021 **Great Lakes Exoplanet Area Meeting**, Ann Arbor, MI, Talk
"Kepler-80 Revisited: How a Newly Discovered Planet Changes the Dynamical Character of the System"

May 2021 **52nd meeting of the Division of Dynamical Astronomy**, Virtual, Talk
"A Dynamical Analysis of the Kepler-80 System of Six Transiting Planets"

April 2020 **Undergraduate Research Opportunities Program symposium**, Virtual, Poster
"A Dynamical Analysis of the Kepler-80 System of Six Transiting Planets"

January 2017 **229th American Astronomical Society Meeting**, Grapevine, TX, Poster
"Finding High Quality Young Star Candidates in Ceph C Using X-ray, Optical and IR Data"

Honors, Scholarships, and Awards

April 2026 **Canada Graduate Research Scholarship — Doctoral (NSERC CGRS D)**, $120,000 CAD
For select Canadian graduate students who demonstrate achievements and research potential within academia

June 2025 **Physics & Astronomy Departmental International Award**, *McMaster University, Department of Physics & Astronomy*, $5,000 CAD
For select international students who demonstrate ability and potential to carry out proposed PhD research plan of study

April 2025 **Physics & Astronomy Graduate Support Award**, *McMaster University, Department of Physics & Astronomy*, $468 CAD
For graduate students enrolled in Physics & Astronomy MSc and PhD programs who demonstrate academic and research progress

April 2025 **McMaster University Graduate Scholarship**, *$2,500 CAD*

April 2023 **McMaster University Entrance Scholarship**, *$2,000 CAD*

April 2023 **McMaster University Graduate Scholarship**, *$5,000 CAD*

April 2023 **Astronomy Education & Community Outreach Award**, *University of Michigan, Department of Astronomy*, $250 USD
For significant educational achievement and major contributions to the public awareness and education of all things astronomy

April 2023 **Astronomy Department Graduation Commencement Speech**, *University of Michigan, Department of Astronomy*
Invited to give a speech representing the graduating class at the department's graduation commencement

2019-2023 **7x University Honors Designation**, *University of Michigan*
For students who earned a 3.5 grade point average or higher during a term

Outreach and Other Experience

November 2023 – Present
Planetarium Presenter, *McMaster University*, Hamilton, Ontario
Serving as a planetarium presenter at the W. J. McCallion Planetarium, giving planetarium shows to groups of all ages. Developed multiple themed shows for use in planetarium aimed at teaching viewers about exoplanets and astrobiology.

September 2023 – Present
Skype a Scientist Presenter, *Virtual*
Serving as a presenter for Skype a Scientist, a nonprofit that connects scientists with classrooms and libraries worldwide. Met with over two dozen K-12 and college classrooms (so far) and answered questions about astronomy and hosted Q&A sessions about my work and the field.

June 2023 – Present
Course Mentor, *Virtual*
Serving as a course mentor for Intro2Astro, an annual summer course aimed at teaching aspiring high school and undergraduate students the basic skills needed for formal entry into a research project. Gave lectures and wrote demos and assignments aimed at teaching these students the basics of model fitting using `emcee` and at understand exoplanet detections through radial velocities, and assisted students on all course topics through office hours and virtual chat servers.

September 2021 – April 2023
Telescope Operator, *University of Michigan*, Ann Arbor, MI
Became trained on the Angell Hall Observatory at the University of Michigan, and became familiar with the operation and use of its 0.4m Cassegrain telescope. Ran observatory for introductory astronomy laboratory classes at University of Michigan every week, helping teach students about structure of planets and stars. Additionally ran observatory for many open houses for the University of Michigan's Student Astronomical Society, as well as other public outreach events.

January 2020 – April 2023
Study Group Facilitator, *University of Michigan*, Ann Arbor, MI
Worked at the University of Michigan's Science Learning Center to run study groups for introductory physics courses.
From May 2021 onwards, additionally worked as Content Manager for these courses, developing and assigning worksheets and practice exams for students to use.
From August 2022 onwards, became Course Leader, leading and training all study group facilitators for introductory physics courses, as well as developing workshops to assist new facilitators.

Courses TAed

Winter 2026 **PHYSICS 1E03 – Waves, Electricity and Magnetic Fields**, *Teaching Assistant*
Winter 2026 **ASTRON 2E03 – Planetary Astronomy**, *Head Teaching Assistant*
Fall 2025 **PHYSICS 1D03 – Introductory Mechanics**, *Teaching Assistant*
Fall 2025 **ASTRON 1F03 – Introduction to Astronomy & Astrophysics**, *Teaching Assistant*
Winter 2025 **PHYSICS 1E03 – Waves, Electricity and Magnetic Fields**, *Teaching Assistant*
Winter 2025 **ASTRON 2E03 – Planetary Astronomy**, *Teaching Assistant*
Fall 2024 **PHYSICS 1D03 – Introductory Mechanics**, *Teaching Assistant*
Fall 2024 **ASTRON 1F03 – Introduction to Astronomy & Astrophysics**, *Teaching Assistant*
Winter 2024 **PHYSICS 1A03 – Introductory Physics - Modern**, *Teaching Assistant*
Winter 2024 **PHYSICS 1E03 – Waves, Electricity and Magnetic Fields**, *Teaching Assistant*
Fall 2023 **PHYSICS 1D03 – Introductory Mechanics**, *Teaching Assistant*
Fall 2023 **ASTRON 1F03 – Introduction to Astronomy & Astrophysics**, *Teaching Assistant*

Skills

Programming	Python, R	*Experienced*
Programming	C++	*Intermediate*
	SQL	*Beginner*
Software	Conda, Excel	
Language	English – First Language, Hebrew – Conversational	
Other	Adaptability, Conflict Management, Planetarium Operation, Science Commmunication, Telescope Operation	