Dr. Emily Deibert

Gemini Science Fellow
Gemini Observatory/NSF's NOIRLab
Casilla 603, La Serena, Chile

Email: emily.deibert@noirlab.edu
Web: `emilydeibert.github.io`

Academic Positions

Postdoctoral Science Fellow 2022 – Present
Gemini Observatory/NSF's NOIRLab

Education

University of Toronto 2017 — 2022
PhD in Astronomy & Astrophysics
Advisors: Prof. Suresh Sivanandam, Prof. Ray Jayawardhana

University of Toronto, Victoria College 2012 — 2017
HBSc. in Astrophysics, English, and Mathematics (*High Distinction*)
Advisor: Prof. Chris Matzner

Refereed Publications

First Author

1. **Deibert**, de Mooij, Jayawardhana, et al., "ExoGemS High-Resolution Transmission Spectroscopy of WASP-76b with GRACES", 2023, AJ, 166, 141.
2. **Deibert**, de Mooij, Jayawardhana, et al., "Detection of Ionized Calcium in the Atmosphere of the Ultra-Hot Jupiter WASP-76b", 2021, ApJL, 919, L15.
3. **Deibert**, de Mooij, Jayawardhana, et al., "A Near-Infrared Chemical Inventory of the Atmosphere of 55 Cancri e", 2021, AJ, 161, 209.
4. **Deibert**, de Mooij, Jayawardhana, et al., "High-resolution Transit Spectroscopy of Warm Saturns", 2019, AJ, 157, 58.

Contributing Author

5. Placco et al. incl. **Deibert**, "SPLUS J1424-2542: An R-Process Enhanced, Extremely Metal-Poor star observed with GHOST", 2023, ApJ, 959, 60.
6. Dovgal et al. incl. **Deibert**, "Probing the early Milky Way with GHOST spectra of an extremely metal-poor star in the Galactic disk", 2023, submitted to MNRAS.
7. Flagg, Turner, **Deibert**, et al. "ExoGems Detection of a Metal Hydride in an Exoplanet Atmosphere at High Spectral Resolution", 2023, ApJL, 953, 19.
8. Allart et al. incl. **Deibert**, "Homogeneous search for helium in the atmosphere of 11 gas giant exoplanets with SPIRou", 2023, accepted by A&A.
9. Bolin et al. incl. **Deibert**, "Keck, Gemini, and Palomar 200-inch visible photometry of red and very-red Neptunian Trojans", 2023, MNRAS Letters, 521, 29.
10. Ridden-Harper et al. incl. **Deibert**, "High-Resolution Transmission Spectroscopy of the Terrestrial Exoplanet GJ 486b", 2023, AJ, 165, 170.

11. Sivanandam et al. incl. **Deibert**, "Astrophotonic Solutions for Spectral Cross-Correlation Techniques", 2022, SPIE Proceedings.
12. Boucher et al. incl. **Deibert**, "Characterizing Exoplanetary Atmospheres at High Resolution with SPIRou: Detection of Water on HD 189733 b", 2021, AJ, 162, 223.
13. Jindal, de Mooij, Jayawardhana, **Deibert**, et al., "Characterization of the Atmosphere of Super-Earth 55 Cancri e Using High-resolution Ground-based Spectroscopy", 2020, AJ, 160, 101.
14. Petrovich, **Deibert**, & Wu, "Ultra-Short-Period Planets from Secular Chaos", 2019, AJ, 157, 180.
15. Huang, Petrovich, & **Deibert**, "Dynamically Hot Super-Earths from Outer Giant Planet Scattering", 2017, AJ, 153, 5.
16. Percy & **Deibert**, "Studies of the Long Secondary Periods in Pulsating Red Giants", 2016, JAAVSO, 44, 2.

Fellowships & Awards

Chorafas Foundation Prize 2023
Dimitris M. Chorafas Foundation
$ 5000

NSERC Postdoctoral Fellowship 2022 — 2024
NSERC
$ 90,000

Vanier Canada Graduate Scholarship 2019 — 2022
NSERC/University of Toronto
$ 150,000

Fieldus Award 2021 – 2022
Department of Astronomy & Astrophysics, University of Toronto
$ 1000

Dean's Doctoral Award of Excellence 2020
Faculty of Arts & Sciences, University of Toronto
$ 10,000

Alumni Association Scholar (Graduate) 2020
University of Toronto
$ 1000

Astronomy & Astrophysics Graduate Program Award 2020
University of Toronto
$ 1000

NSERC Canada Graduate Scholarship - Doctoral 2019 — 2022 (Declined)
NSERC/University of Toronto
$ 105,000

Faculty of Arts & Sciences Program-Level Fellowship 2018 — 2020
University of Toronto
$ 2300

NSERC Canada Graduate Scholarship - Master's 2018 — 2019
NSERC/University of Toronto
$ 17,500

U of T Fellowship, Faculty of Arts & Sciences 2017 — 2018
University of Toronto
$ 12,375

Ontario Graduate Scholarship 2017 — 2018
OGS/University of Toronto
$ 15,000

Faculty of Arts & Sciences Graduate Admissions Fellowship 2017 — 2018
University of Toronto
$ 5000

Alumni Association Scholar (Undergraduate) 2017
University of Toronto
$ 1000

Highly Commended (Literature) 2017
The Undergraduate Awards

Summer Undergraduate Research Fellowship 2016
University of Toronto
$ 10,000

Gerald Allen Hollingshead Memorial Scholarship 2012 — 2016
University of Toronto
$ 20,000

Summer Undergraduate Research Fellowship 2015
Canadian Institute for Theoretical Astrophysics
$ 8000

The Arthur Irwin Prize 2014
Victoria College
$ 1000

Dr John Knowles Colling Memorial Scholarship 2013
Victoria College
$ 585

Faculty of Arts & Sciences Entrance Scholarship 2013
University of Toronto
$ 2000

University of Toronto Scholars Award 2012
University of Toronto
$ 5000

Conference Presentations & Seminars

1. "*The Gemini High-Resolution Optical SpecTrograph (GHOST) and Future Instrumentation at the International Gemini Observatory*", Invited Plenary Talk, **Brazil Astronomical Society Annual Meeting**, Rio de Janeiro, Brazil (October 2023).

2. "*High-Resolution Spectroscopy of Exoplanet Atmospheres with GRACES/Gemini North*", Contributed Talk, **CASCA 2023 Meeting**, University of British Columbia Okanagan, Penticton, Canada (June 2023).

3. "*Results from the Exoplanets with Gemini Spectroscopy (ExoGems) Survey*", Contributed Talk, **SOCHIAS Annual Meeting**, Universidad de la Frontera, Temuco, Chile (March 2023).

4. "*Updates on the Gemini High-resolution Optical SpecTrograph (GHOST)*", Contributed Talk, **SOCHIAS Annual Meeting**, Universidad de la Frontera, Temuco, Chile (March 2023).

5. "*Astrophotonics Solutions for Spectral Cross-Correlation Techniques*", Contributing Author on Talk by Suresh Sivanandam, **SPIE 12184**, Montreal, Canada (July 2022).

6. "*Results from the ExoGemS Survey*", Contributing Author on Talk by Laura Flagg, **Exoplanets 4**, Las Vegas/AAS (June 2022). *Proceedings*: Bulletin of the AAS, 54, 5, #102.412.

7. "*The Extreme Atmosphere of an Exotic World: Detection of Ionized Calcium in WASP-76b*", Dissertation Talk, **53rd Annual Meeting of the AAS Division for Planetary Sciences (DPS)**, Virtual/AAS (October 2021). *Proceedings*: Bulletin of the AAS, 53, 7, #302.04D.

8. "*A Near Infrared Chemical Inventory of the Atmosphere of 55 Cancri e*", Contributed Talk, **Emerging Researchers in Exoplanetary Sciences (ERES) 2021**, Virtual/Princeton University, USA (May 2021).

9. "*A Near Infrared Chemical Inventory of the Atmosphere of 55 Cancri e*", Invited Seminar, **APEx ExoCoffee**, Max Planck Institute for Astronomy, Heidelberg, Germany (March 2021).

10. "*Remote Sensing of Extreme Worlds: High-Resolution Spectroscopy of Exoplanet Atmospheres*", Contributing Author on Talk by Ray Jayawardhana, **Extreme Solar Systems IV**, Reykjavik, Iceland (August 2019). *Proceedings*: AAS Extreme Solar Systems, 51, 201.01.

11. "*High-Resolution Spectroscopy of Exoplanet Atmospheres*", Contributed Talk, **ERES V**, Cornell University, USA (June 2019).

12. "*High-Resolution Ground-Based Transmission Spectroscopy of Warm Saturns*", Contributed Talk, **ERES IV**, Penn State University, USA (June 2018).

13. "*High-Resolution Ground-Based Transmission Spectroscopy of Warm Saturns*", Contributed Talk, **Technologies for ExoPlanetary Sciences (TEPS) 2018**, University of British Columbia, Canada (May 2018).

14. "*High-Resolution Ground-Based Transmission Spectroscopy of Warm Saturns*", Contributed Talk, **The Canadian Astronomical Society (CASCA) 2018 Meeting**, University of Victoria, Canada (May 2018).

15. "*Detached Ultra-Short Period Planets from Secular Chaos*", Contributed Talk, **Diversis Mundi: The Solar System in an Exoplanetary Context**, ESO Santiago, Chile (March 2018). *Proceedings*: 10.5281/zenodo.1317487.

16. "*Detached Ultra-Short Period Planets from Secular Chaos*", Invited Seminar, **Stars & Planets Seminar Series**, Canadian Institute for Theoretical Astrophysics, Toronto, Canada (March 2018).

17. "*Ultra-Short Period Planets*", Invited Seminar, **Centre for Planetary Sciences Seminar Series**, University of Toronto Scarborough, Canada (March 2018).

18. "*Long Secondary Periods of Pulsating Red Giant Stars*", Contributed Talk, **Canadian Conference for Undergraduate Women in Physics**, Dalhousie University, Canada (January 2016).

Conference Posters

1. "*A Near-Infrared Chemical Inventory of the Atmosphere of 55 Cancri e*", Contributed Poster, **CASCA 2021 Meeting**, Virtual/University of British Columbia, Canada (June 2021).
2. "*A Near-Infrared Chemical Inventory of the Atmosphere of 55 Cancri e*", Contributed Poster, **Exoplanets III**, Virtual/Heidelberg, Germany (July 2020).
3. "*A Near-Infrared Chemical Inventory of the Atmosphere of 55 Cancri e*", Contributed Poster, **CASCA 2020 Meeting**, Virtual/York University, Canada (June 2020).
4. "*Near-Infrared Transit Spectroscopy of 55 Cancri e*" Contributed Poster, **Extreme Solar Systems IV**, Reykjavik, Iceland (August 2019). *Proceedings:* AAS Extreme Solar Systems, 51, 327.03.
5. "*One Hit Wonders: Recovering the Longest Period TESS Planets*", Contributing Author on Poster by Carl Ziegler, **Extreme Solar Systems IV**, Reykjavik, Iceland (August 2019). *Proceedings:* AAS Extreme Solar Systems, 51, 302.01.
6. "*Investigating the Presence of HCN in the Atmosphere of 55 Cancri e*", Contributed Poster, **ExoClimes V**, University of Oxford, UK (August 2019).
7. "*Characterizing the Atmosphere of HAT-P-12b with Transmission Spectroscopy*", Contributed Poster, **Women in Planetary Science and Exploration**, University of Toronto, Canada (March 2018).
8. "*Dynamically Hot Super-Earths from Outer Giant Planet Scattering*", Contributed Poster, **Canadian Conference for Undergraduate Women in Physics**, McMaster University, Canada (January 2017).
9. "*Investigating Long Secondary Periods of Pulsating Red Giant Stars*", Contributed Poster, **Department of Physics Undergraduate Research Fair**, University of Toronto, Canada (April 2016).

Observing Proposals

Principal Investigator .....

A Comparative Study of Ultra-Hot Jupiter Dayside Atmospheres 2024A
GHOST/Gemini South
20.8 Hours

Completing the Picture: Dayside Spectroscopy of an Ultra-Hot Jupiter Atmosphere 2024A
GHOST/Gemini South
5.3 Hours

High-Resolution Spectroscopy of Hot Exoplanet Atmospheres 2023A
GHOST/Gemini South
3 Hours (*System Verification*)

Chemical Gradients & Heat Transport in an Ultra-Hot Jupiter Atmosphere 2022B
MAROON-X/Gemini North
4 Hours (*Fast Turnaround*)

Molecular Signatures in the Dayside Emission of an Ultra-Hot World 2022B
SPIRou/CFHT
20 Hours

Detecting the Magnetic Field of a Hot Jupiter via Spectropolarimetry 2022B
SPIRou/CFHT
12 Hours (*Followup to 2020A/2021B Proposals*)

First Detailed Characterization of an Exceptional New Earth-Sized World 2021B
SPIRou/CFHT
2.5 Hours (*Ranked #1 of 39 by CanTAC*)

Detecting the Magnetic Field of a Hot Jupiter via Spectropolarimetry 2021B
SPIRou/CFHT
12 Hours (*Followup to 2020A Proposal*)

Detecting the Magnetic Field of a Hot Jupiter via Spectropolarimetry 2020A
SPIRou/CFHT
20 Hours (*Ranked #1 of 40 by CanTAC*)

Constraining the Ephemerides of a New Young Planetary System Cycle 1 (2019)
NEOSSat

Constraining the Carbon Abundance of a Super-Earth Atmosphere 2019A
SPIRou/CFHT
10 Hours

Co-Investigator .....

Unveiling the Atmosphere of the Highly Irradiated Ultra-Hot Jupiter TOI-2109b 2024A
EXPRES/LDT
1 Night

Atmospheric Characterization of the Inflated Hot Jupiter KELT-4 A b 2024A
EXPRES/LDT
1 Night

Inferno-Dynamics: Unmasking Chemical Inhomogeneities in the Hottest Exoplanet Atmosphere 2024A
KPF/Keck
1.5 Nights

Detecting the Magnetic Field of a Hot Jupiter via Spectropolarimetry 2024A
SPIRou/CFHT
24 Hours (*Followup to 2020A/2021B/2022B Proposals*)

Diving into the Ultra-Hot Atmosphere of HAT-P-70 b with GHOST 2023B
GHOST/Gemini South
5.75 Hours (*Shared Risk*)

Using GHOST to trace the formation histories of hot Jupiters around M dwarfs 2023B
GHOST/Gemini South
5.42 Hours (*Shared Risk*)

Exploring the Diversity of Exoplanet Atmospheres at High Resolution 2020 — 2023
GRACES/Gemini North
224 Hours (*Long and Large Program*)

First Detailed Characterization of an Exceptional New Earth-Sized World 2021A
IGRINS/Gemini South
2.5 Hours (*Director's Discretionary Time*)

Observing CO & CO_2 in Solar System Planets at High Spectral Resolution 2020A
GIANO/TNG
0.5 Nights

Characterizing the Atmosphere of the Extremely Hot Jupiter Kepler-13Ab 2019A
GRACES/Gemini North
10 Hours

The Chemical Inventory of Exoplanet tau Bootis b 2019A
SPIRou/CFHT
10 Hours (*Ranked #1 of 28 by CanTAC*)

Understanding How Tight Binaries Affect TESS Planets 2019A
SOAR
4 Nights

Workshop Attendance

ESO Atmospheres Workshop Summer 2021
ESO Garching/Virtual

Early Release Science Pre-Launch Data Hackathon Summer 2021
JWST/Virtual

Helping Astronomers: A Workshop on Teaching Climate Change Fall 2019
CASCA/Virtual

ComSciConCAN: Science Communication Workshop Summer 2019
McMaster University, Canada

Multi-Dimensional Characterization of Distant Worlds Fall 2018
University of Michigan, Ann Arbor

Additional Research Experience

Graduate Research Experience

Graduate Research Course Summer 2018
University of Toronto
Advisor: Diana Valencia
Modelling tidal dissipation in super-Earth interiors.

Graduate Research Course 2017 — 2018
University of Toronto
Advisor: Ray Jayawardhana
High-resolution optical spectroscopy of warm Saturn atmospheres.

Undergraduate Research Experience

Undergraduate Research Assistant Summer 2017
Canadian Institute for Theoretical Astrophysics
Advisor: Cristobal Petrovich
Simulating the origins and dynamics of ultra-short period planets.

Undergraduate Research Thesis 2016 — 2017
University of Toronto
Advisor: Chris Matzner
Observing starforming regions in the Dragonfish Nebula.

Undergraduate Research Assistant Summer 2016
Dunlap Institute for Astronomy & Astrophysics
Advisors: Chelsea Huang & Cristobal Petrovich
Simulating the dynamics of Kepler super-Earths with outer giant planets.

Undergraduate Research Assistant 2015 — 2016
University of Toronto
Advisor: John Percy
Studying the long secondary periods of pulsating red giant stars.

Undergraduate Research Assistant Summer 2015
University of Toronto
Advisors: Marten van Kerkwijk & Ue-Li Pen
Observing and studying giant pulses and scintillation from the Crab pulsar.

Teaching Experience

Teaching Assistant Fall 2021
AST101: The Sun and its Neighbours (U of T)

Teaching Assistant Fall 2020
AST301: Observational Astronomy (U of T)

Course Development Support Summer 2020
AST301: Observational Astronomy (U of T)
Hired to redesign course content for online format during COVID-19

Summer Teaching Assistant Summer 2020
AST101: The Sun and its Neighbours (U of T)

Senior Teaching Assistant Winter 2020
AST201: Stars and Galaxies (U of T)

Senior Teaching Assistant Fall 2019
AST101: The Sun and its Neighbours (U of T)

Summer Teaching Assistant Summer 2019
AST201: Stars and Galaxies (U of T)

Head Teaching Assistant Winter 2019
AST201: Stars and Galaxies (U of T)
Head TA for a team of 30+ TAs

Head Teaching Assistant Fall 2018
AST101: The Sun and its Neighbours (U of T)
Head TA for a team of 30+ TAs

Summer Teaching Assistant Summer 2018
AST251: Life on Other Worlds (U of T)

Teaching Assistant Winter 2018
AST251: Life on Other Worlds (U of T)
Helped redesign course content

Teaching Assistant Winter 2018
ASTC25: Astrophysics of Planetary Systems (U of T Scarborough)

Senior Teaching Assistant Winter 2018
AST201: Stars and Galaxies (U of T)

Teaching Assistant Fall 2017
AST101: The Sun and its Neighbours (U of T)

Undergraduate Teaching Assistant Winter 2017
AST201: Stars and Galaxies (U of T)

Undergraduate Teaching Assistant Winter 2016
AST201: Stars and Galaxies (U of T)

Relevant Work Experience

Science Communications Associate 2018 — Present
Research2Reality

Public Outreach Support 2021 — 2022
Dunlap Institute for Astronomy & Astrophysics

Astronomy Library Assistant 2017
University of Toronto

Outreach

Public Lectures, Panels, Workshops, & Presentations .....

Workshop on Science Writing June 2022
Canadian Association of Physicists

Planet Gazing Party Host September 2021
Dunlap Institute for Astronomy & Astrophysics

Panel Discussion on Creating a CV Summer 2021
U of T Summer Undergraduate Research Program

Public Talk: The Extraordinary Worlds of Exoplanets February 2021
Richmond Hill Public Library

Planet Gazing Party Panelist September 2020
Dunlap Institute for Astronomy & Astrophysics

Public Talk: Astronomy Night July 2020
David Dunlap Observatory/RASC Toronto Centre

Astro at Home Talk: Extraordinary Exoplanets April 2020
Discover the Universe

Panel Discussion on Astronomy November 2019
Toronto Astronomy & Space Exploration Society

Astronomy on Tap: An Astronomer's Guide to Finding Exoplanets June 2019
Astronomy on Tap Toronto

Lecturer for Discover the Universe Teacher's Workshop April 2019
Discover the Universe

Panel Discussion on Graduate School January 2019
Astronomy Undergraduates Union

NSERC Scholarship Application Workshop November 2018
University of Toronto (Created, organized & led workshop)

Science Writing Workshop September 2018
University of Toronto (Created, organized & led workshop)

Public Talk: A New Window on Exoplanet Atmospheres April 2018
Graduate Speaker Series, University of Toronto

Public Talk for the Canadian Space Society January Meeting January 2018
Canadian Space Society

Mentorship

Graduate-Undergraduate Mentor 2020 — 2021
Mentor to undergraduate student.

Girls SySTEM Women in STEM Mentor 2019 — 2020
Mentor to high school student.

Graduate Peer Mentor 2018 — 2020
Mentor to incoming graduate students.

Other Outreach Work

ComSciConGTA Conference Organizing Committee 2019 — 2020
Communicating Science Conference (ComSciCon) Series

SpaceTime Event Volunteer 2019 — Present
Dunlap Institute for Astronomy & Astrophysics

"Ask an Astronomer" Email Account Manager 2018 — 2020
University of Toronto

"Science Around Town" Weekly Columnist 2018 — 2019
The Varsity Newspaper, University of Toronto

Staff Science Writer 2017 — 2020
The Varsity Newspaper, University of Toronto

Solar Eclipse Event Volunteer 2017
Canadian National Exhibition

Telescope Coordinator & Event Volunteer 2017
Toronto Chinatown Festival

Astronomy on Tap Volunteer 2015 — Present
Astronomy on Tap Toronto

AstroTours Volunteer 2015 — Present
University of Toronto

Service Work

TAC Member 2023 — Present
NOIRLab Time Allocation Committee

Referee 2023 — Present
AAS Journals

Referee 2022 — Present
CFHT Time Allocation Committee

CASCA Postdoc Committee Member 2023 — Present
Canadian Astronomical Society (CASCA)

President 2019 — 2020
Graduate Astronomy Students Association, University of Toronto

Director Search Committee Member 2020
Dunlap Institute for Astronomy & Astrophysics

***Elemental* Mental Health Magazine Executive Editor** 2019 — 2020
Grad Minds, University of Toronto

Department Chair Search Committee Member 2019 — 2020
Department of Astronomy & Astrophysics, University of Toronto

Science Discussion Group Facilitator 2018 — 2019
Department of Astronomy & Astrophysics, University of Toronto

CASCA Student Representative 2018 — 2019
Canadian Astronomical Society

Mental Health Committee Member 2017 — 2019
Department of Astronomy & Astrophysics, University of Toronto

Astronomy Undergraduates Liaison 2017 — 2019
Graduate Astronomy Students Association

Astronomy Undergraduates Union (AU) Co-Founder 2017
University of Toronto

Professional Development

Graduate Professional Skills Development Certification 2017 — Present
School of Graduate Studies, University of Toronto

Advanced Undergraduate Teaching Certification 2018 — 2020
Teaching Assistant Training Program, University of Toronto

SafeTALK Suicide Awareness & Intervention Training 2019
University of Toronto/Living Works

Teaching Fundamentals Certification 2017 — 2018
Teaching Assistant Training Program, University of Toronto

Select Media Appearances

1. "*Researchers investigate an 'ultra-hot Jupiter' with iron rain and calcium wind*", Quirks & Quarks, CBC Radio, October 2021.
2. "*Bizarre, scorching exoplanet WASP-76 b may be even hotter than we thought*", SPACE.com, October 2021.
3. "*Inferno-like WASP-76b exoplanet where iron gets vaporized and falls from the sky like rain is even HOTTER than first thought, study finds*", The Daily Mail, October 2021.
4. "*This exoplanet rains iron. And scientists say temperatures can hit a scorching 4,000 degrees*", USA Today, October 2021.
5. "*Planet with iron rainfall is even more extreme than scientists thought*", CNN, October 2021.
6. "*Quirks & Quarks Listeners' Questions Episode*", Quirks & Quarks, CBC Radio, June 2021.
7. "*Astronomy PhD student Emily Deibert awarded A&S Doctoral Excellence Scholarship*", U of T News, November 2020.

8. "*Wander the Night Sky*", CIBC Private Wealth Newsletter, August 2020.
9. "*A Faraway Solar System Looks Eerily Similar to Our Own*", The Atlantic, July 2020.
10. "*Catching Up With "Award of Excellence" Winner Emily Deibert*", Dunlap Institute for Astronomy & Astrophysics, April 2020.
11. "*Astronomy PhD Student Named a 2019 Vanier Scholar for Research on Exoplanets*", The Varsity, University of Toronto, October 2019.
12. "*Meteor Sighting Lights up Night Sky*", The Manitoulin Expositor, December 2018.
13. "*Solar Telescopes and Solar Eclipse Viewing*", CTV News Broadcast Interview, August 2017.
14. "*Solar Eclipse Glasses and Safety*", CTV News Broadcast Interview, August 2017.
15. "*Starfinders: The Campaign for U of T Astronomy*", Dunlap Institute for Astronomy & Astrophysics, February 2017.

Press Releases

1. "*Spectrum reveals extreme exoplanet is even more exotic*", Dunlap Institute for Astronomy & Astrophysics, University of Toronto, October 2021.
2. "*Spectrum reveals extreme exoplanet is even more exotic*", Cornell Chronicle, Cornell University, October 2021.
3. "*Scientists reveal extreme exoplanet is even more exotic than they thought*", Queen's University Belfast, October 2021.

Select Science Writing

100+ science news articles written for a range of media outlets. Full portfolio available online.

1. "*Einstein Was Right, and Now We Have the Proof*", Research2Reality, July 2021.
2. "*How Much Stuff is There in the Universe?*", New Scientist, August 2020.
3. "*Was the Milky Way a Quasar?*", PBS Space Time, April 2020.
4. "*Astronomers Now Have Some Idea of How the First Stars Died*", Massive Science, June 2019.