

Adiv Paradise

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EDUCATION

University of Minnesota - Twin Cities May 2014
B.S. in Astrophysics and Physics, *magna cum laude*

University of Toronto Started September 2015
Ph.D. Candidate in Astrophysics

RESEARCH PROJECTS

PhD Thesis Project: The Nature of Habitable Zone Climates and their Observability
Supervisor: Dr. Kristen Menou University of Toronto
September 2016 – Fall 2020 Astronomy & Astrophysics

First-Year PhD Project: Efficient Beamforming with the CHIME Radio Telescope: The Search for Fast Radio Bursts
Supervisor: Dr. Keith Vanderlinde University of Toronto
June 2016 – August 2016 Astronomy & Astrophysics

First-Year PhD Project: Unstable Climates in the Habitable Zone
Supervisor: Dr. Kristen Menou University of Toronto
September 2015 – May 2016 Astronomy & Astrophysics

Post-Baccalaureate Project: A Faster Way to Compute Implicit Fluid Transport
Supervisor: Dr. Paul Woodward University of Minnesota
October 2014 – August 2015 Physics & Astrophysics

Undergraduate Thesis Project: An Efficient Poisson Gravity Solver
Supervisor: Dr. William Dai Los Alamos National Laboratory: 2014
Supervisor: Dr. Paul Woodward University of Minnesota
September 2013 – May 2014 Physics & Astrophysics

Undergraduate Research Assistant: Electromagnetic Waves in the Solar Wind — Data Acquisition and Analysis
Supervisor: Dr. Aaron Breneman University of Minnesota
June 2011 – May 2014 Physics & Astrophysics

TEACHING EXPERIENCE

University of Toronto Department of Astronomy & Astrophysics
Teaching Assistant September 2015 – Present

Camp Galil
Camp Counselor June 2010 – July 2010

Beth Jacob Congregation
Teaching Assistant September 2006 – May 2010

JOURNAL PUBLICATIONS

1. **Adiv Paradise**, Kristen Menou, Diana Valencia, and Christopher Lee. Habitable Snowballs: Generalizing the Habitable Zone. March 2018. (Submitted; arXiv:1803.00511)
2. **Adiv Paradise** and Kristen Menou. GCM Simulations of Unstable Climates in the Habitable Zone. *The Astrophysical Journal*, 848(1):33, 2017
3. Kiyoshi W. Masui, J. Richard Shaw, Cherry Ng, Kendrick M. Smith, Keith Vanderlinde, and **Adiv Paradise**. Algorithms for FFT Beamforming Radio Interferometers. oct 2017. Under review
4. Cherry Ng, Keith Vanderlinde, **Adiv Paradise**, Peter Klages, Kiyoshi Masui, Kendrick Smith, Kevin Bandura, Patrick Joseph Boyle, Matt Dobbs, Victoria Kaspi, Andre Renard, J Richard Shaw, Ingrid Stairs, and Ian Tret'yakov. CHIME FRB: An application of FFT beamforming for a radio telescope. *XXXIIth URSI General Assembly & Scientific Symposium (URSI GASS) 2017*, August 2017
5. Daniel Tamayo, Ari Silburt, Diana Valencia, Kristen Menou, Mohamad Ali-Dib, Cristobal Petrovich, Chelsea X. Huang, Hanno Rein, Christa van Laerhoven, **Adiv Paradise**, Alysa Obertas, and Norman Murray. A Machine Learns to Predict the Stability of Tightly Packed Planetary Systems. *The Astrophysical Journal*, 832(2):L22, nov 2016
6. A. W. Breneman, C. A. Cattell, K. Kersten, **Paradise, A.**, S. Schreiner, P. J. Kellogg, K. Goetz, and L. B. Wilson. STEREO and Wind observations of intense cyclotron harmonic waves at the Earth's bow shock and inside the magnetosheath. *Journal of Geophysical Research: Space Physics*, 118(12):7654–7664, 2013
7. A. Breneman, C. Cattell, J. Wygant, K. Kersten, L. B. Wilson, L. Dai, C. Colpitts, P. J. Kellogg, K. Goetz, and **Paradise, A.** Explaining polarization reversals in STEREO wave data. *Journal of Geophysical Research: Space Physics*, 117(4):1–8, 2012

SELECTED CONFERENCE PROCEEDINGS

1. A. Paradise and K. Menou. The Habitability of Frozen Worlds. Emerging Researchers in Exoplanet Sciences III (Talk), June 2017
2. A. Paradise and P. Woodward. Toward a new implicit scheme using Riemann invariants. JINA-CEE GNASH: The anomalous metal-poor stars and convective-reactive nuclear astrophysics (Talk), May 2015
3. A. Paradise and K. Menou. Stable weathering equilibria in snowball planets in the habitable zone. Emerging Researchers in Exoplanet Sciences II (Poster), June 2016
4. A. Paradise, P. Woodward, and W. Dai. Development and Optimization of a Fast Poisson Solver using a Red-Black Multigrid Approach in 2-D. LANL Computing and Information Technology Student Mini Showcase (Poster), july 2014
5. A. Paradise, A. W. Breneman, C. A. Cattell, K. Kersten, S. Schreiner, P. J. Kellogg, K. Goetz, and L. B. Wilson, III. STEREO and Wind Observations of Intense Cyclotron Harmonic Waves at the Earth's Bow Shock (Poster). December 2013

MEDIA ENGAGEMENT

Scientific American: “Like Ancient Snowball Earth, Frozen Planets May Still Be Habitable”. Shannon Hall: March 13, 2018. Print. <https://www.scientificamerican.com/article/like-ancient-snowball-earth-frozen-planets-may-still-be-habitable/>

CBC Radio: Short interview after total solar eclipse. August 21, 2017. Radio.

CBC News: Interview. “These 3 Toronto students chased the solar eclipse all the way to Oregon”. Malone Mullin: August 21, 2017. Print. <http://www.cbc.ca/news/canada/toronto/eclipse-chasers-1.4254841>

CBC Toronto News: TV interview about upcoming total solar eclipse. August 20, 2017. Television.

U of T News: Interview. “Road Trip! U of T students and faculty chase total solar eclipse”. Romi Levine: August 11, 2017. Print. <https://www.utoronto.ca/news/road-trip-u-t-students-and-faculty-chase-total-solar-eclipse>

OUTREACH

ASX: Astronomy & Space Exploration Society
“Is Anybody Out There?” Panel Discussion – Panelist March 7, 2018

AstroTours Astronomy Outreach Events
“Cold Out There, Eh? The Climates of Alien Worlds” (Lecture) March 1, 2018
Volunteer 2015–Present

Dunlap Institute for Astronomy & Astrophysics
“The Squid-People of Proxima b” (‘Astro on Tap’ Talk) March 23, 2018
“Ask an Astronomer” Email Service 2016–Present
Sidewalk Astronomy Summers 2016 & 2017
Astronomy On Tap Volunteer 2015–Present

University of Toronto Libraries “Science Literacy Week”
Human Book: ‘What is an Astronomer?’ September 2017

AAAS “Book Smart” Book Club: ‘The Hunt for Vulcan’ by Thomas Levinson
Expert Facilitator for Book Discussion 2016

EXTRA-CURRICULARS

University of Toronto Graduate Student Union
General Council Member 2017–2018

Graduate Astronomy Student Association
UTGSU Representative 2017–2018
Co-President 2016–2017
Course Committee 2016–2017
Weekly Tea 2016–2017
Mediation Committee 2015–2017
Plant Watering 2015–2016

Department of Astronomy & Astrophysics
Department Values Statement Committee November 2017–Present

University of Toronto Intramurals
Ultimate Frisbee 2015–2017
Softball Summer 2017
Soccer Fall 2016

University of Toronto Swing Dance Club
Member September 2015–August 2016

Independent School District 197 School Board <i>Strategic Redesign Advisory Committee</i>	2010–2011
Minnesota Association for Zombie Enthusiasts <i>Officer</i>	2014–2015
<i>Member</i>	2011–2014
University of Minnesota Swing Dance Club <i>Member</i>	Spring 2014
University of Minnesota Ballroom Dance Club <i>Member</i>	2013–2014
Twin Cities Ultimate League <i>Ultimate Frisbee Player</i>	2012–2013
University of Minnesota Bands <i>University Band; French Horn</i>	2012–2014
<i>North Star Band; French Horn</i>	Fall 2012
<i>Maroon & Gold Band; French Horn</i>	Spring 2011

AWARDS

Lachlan Gilchrist Fellowship <i>4500 CAD</i>	2017
Centre for Planetary Sciences Graduate Fellowship <i>5000 CAD/year; 2 years</i>	2015
LANL Outstanding Technical Presentation Award	2014
LANL Spot Award for service to the Lab <i>100 USD</i>	2014
Hagstrum Award for Physics Research <i>1000 USD</i>	2014
Harriet B. & Esther Snyder Merrill Scholarship <i>1000 USD/year; 3 years</i>	2011
University of Minnesota Gold Scholar Award <i>7500 USD/year; 4 years</i>	2010
Bentson Family Scholarship <i>5000 USD/year; 4 years</i>	2010
National Merit Scholarship <i>2500 USD</i>	2010
CID, Inc. Scholarship <i>1000 USD</i>	2010