Ari Silburt

Address: University of Toronto, Astronomy & Astrophysics, Toronto, ON M5S3H4
Email: silburt@astro.utoronto.ca
Home Phone: +1 (416) 818-9532
Website: `https://astro.utoronto.ca/~silburt/`

EDUCATION

Doctorate of Philosophy, Astrophysics (Candidate) 2012–2017
Location: University of Toronto, Toronto, ON, Canada
Advisor: Prof. Hanno Rein
Thesis: Investigating the Origin of Kepler Planets Wide of Mean Motion Resonance.

Bachelor of Science, Honours Physics 2008–2012
Location: Mount Allison University, Sackville, NB, Canada
Advisor: Prof. David Hornidge
Thesis: Improvement of the Compton Beam Asymmetry.

AWARDS & HONOURS

NSERC PGS-D Research Grant: Graduate research award from the National Science and Engineering Research Council of Canada. 2015–2017

Walter C Sumner Fellowship: National achievement award for academics and research. 2015–2017

SGS Conference Grants: Two grants from the University of Toronto School of Graduate Studies, awarded for the purpose of presenting original research at top tier conferences. 2015, 2016

NSERC CGS-M Research Grant: Graduate research award from the National Science and Engineering Research Council of Canada. 2013–2014

Dr. R. N. Varma Memorial Award: Graduating Mount Allison University physics student with highest GPA. 2012

Donald G. MacGregor Scholarship: 3rd year Mount Allison University physics student with highest GPA. 2011

NSERC USRA Research Grant: Two Undergraduate summer research awards from the National Science and Engineering Research Council of Canada. 2010–2012

Harrison McCain Scholarship: Mount Allison University scholarship for academic excellence. 2008–2012

PUBLICATIONS

Tamayo, D., **Silburt, A.**, et al., "*A Machine Learns to Predict the Stability of Tightly Packed Planetary Systems*", 2016, ApJL, 832, L22

Silburt, A., Rein, H., Tamayo, D., "*HERMES: A Hybrid Integrator for Simulating Close Encounters and Planetesimal Migration*", 2016, MNRAS (submitted),

preprint: `http://astro.utoronto.ca/~silburt/HERMES.pdf`

Silburt, A., Rein, H., "*Tides Alone Cannot Explain Kepler Planets Close to 2:1 MMR*", 2015, MNRAS, 453, 4089S (7pp)

Silburt, A., Gaidos, E., Wu, Y., "*A Statistical Reconstruction of the Planet Population Around Kepler Solar-Type Stars*", 2015, ApJ, 790, 180S (12pp)

SCIENTIFIC TALKS AND POSTERS

Talk: "*The Formation and Stability of Kepler Planets*", Carnegie Institute for Science, 2016. Location: Washington D.C., USA.

Talk: "*Comparing the Formation of Kepler Systems to the Solar System*", Massachusetts Institute of Technology, 2016. Location: Boston, MA, USA.

Talk: "*Machine Learning to Predict Planet Stability*", Stars and Planets Seminar, Harvard University, 2016. Location: Boston, MA, USA.

Talk: "*Forming Planetary Systems: A Comparative Study Between the Solar System and the Kepler Population*", Princeton University's "Thunch", 2016. Location: Princeton, NJ, USA.

Talk: "*HERMES: A hybrid integrator for simulating close encounters and planetesimal migration*", Emerging Researchers in Exoplanet Science Symposium II (ERESS II), 2016. Location: Cornell University, NY, USA.

Poster: "*Tidal Forces Cannot Explain Planets Close to 2:1 Mean Motion Resonance*, Extreme Solar Systems III (ESS-III), 2015. Location: Waikoloa Beach, HI, USA.

Talk: "*Sifting Through the Noise: A Re-calculation of the Occurrence of Earth-Sized Planets around Kepler Stars*", Emerging Researchers in Exoplanet Science Symposium (ERESS), 2015. Location: University Park, PA, USA.

Talk: "*Extracting the Radius Distribution using noisy Kepler Data*", CITA Blackboard Talk, 2015. Location: University of Toronto, Toronto, ON, Canada.

Talk: "*Improving the Beam Asymmetries for Compton Scattering from the 2008 Data*, Atlantic Undergraduate Physics and Astronomy Conference (AUPAC), 2012. Location: Halifax, NS, Canada.

Talk: "*Extracting the Cross Sections and Beam Asymmetries from the 08 Data*, Institut für Kernphysik, 2011. Location: Universität Mainz, Mainz, Germany.

Talk: "*Improving the Beam Asymmetries of the Proton*, Mount Allison Summer Undergraduate Research Fair (SURF), 2011. Location: Sackville, NB, Canada.

TEACHING

I held the position of "Teaching Assistant" for all entries listed below, and was responsible for leading tutorial lectures, performing planetarium shows, conducting nighttime telescope observing sessions, marking and/or proctoring:

"*PSCB 57: Intro to Scientific Computing*", University of Toronto. 2016

"*AST 251: Life on Other Worlds*", University of Toronto. 2016

"*AST 210: Great Moments in Astronomy*", University of Toronto. 2015

"*AST 101: The Sun and its Neighbours*", University of Toronto. 2012–2015

"*AST 201: Stars and Galaxies*", University of Toronto. 2013–2014

"*PHYS 1031: Stars, Galaxies and the Universe*", Mount Allison University. 2012

"*PHYS 3001: Astrophysics*", Mount Allison University. 2011

"*PHYS 3021: Life in the Universe*", Mount Allison University. 2011

"*PHYS 1021: Solar System Astronomy*", Mount Allison University. 2010

"*PHYS 1551: General Physics II*", Mount Allison University. 2010

"*PHYS 1051: General Physics I*", Mount Allison University. 2009

SELECTED OUTREACH

"AstroTours" Public Talk: "*The Butterfly Effect: Chaos Theory and its Influence on our Lives*", University of Toronto, link: `https://www.youtube.com/watch?v=kK3Kj1sSUeg` 2016

"AstroTours" Keynote Lecture Head Organizer, University of Toronto. Invited Speaker – Fran Bagenal, University of Colorado Boulder. 2016

"AstroTours" Public Talk: "*A Conversation With Our Old Friend The Moon*", University of Toronto, link: `https://www.youtube.com/watch?v=HmCa9qN6DVA` 2016

Scientific Consultant for WJ Gastle's novel "*Mission 32 (Will Hunter Chronicles Book 1)*". 2014–2016

Planetarium Operator and Lecturer at the University of Toronto Planetarium. 2013–2016

Telescope Operator and Volunteer for the University of Toronto's "AstroTours", University of Toronto. 2012–2016

"AstroTours" Public Talk: "*Interstellar: The Science Behind the Movie*", University of Toronto, link: `https://www.youtube.com/watch?v=_mbdxCD_6rA` 2015

"AstroTours" Public Talk: "*Distant Earths*", University of Toronto link: `https://www.youtube.com/watch?v=mLYzxB8VjQY` 2013

Astronomy Society Executive Member, Mount Allison University. 2010–2012

Telescope Operator for Public Tours and Science Labs, Mount Allison University. 2009–2012