

# **Lauren Weiss**

## **University of Montreal**



**Bio:** Dr. Weiss graduated from Harvard University with a bachelor's degree in Astronomy & Astrophysics. She spent a year at the University of Cambridge as the Herchel Smith Harvard Scholar, where she received an M.Phil. in Astronomy. She earned her Ph.D. in Astronomy from the University of California at Berkeley. She is currently the Trottier Fellow at the University of Montreal. Dr. Weiss uses observational techniques to discover exoplanets and characterize their masses, radii, and orbits. With these results, she is probing the diversity of planetary systems and testing how planets form.

### **Title:**

Exoplanet Systems as Laboratories for Planet Formation

### **Abstract:**

With knowledge of thousands of exoplanet systems from the NASA Kepler/K2 Mission and the promise of future discoveries from TESS, Gaia, JWST, and next-generation telescopes like TMT, we are closer than ever to understanding how planets form. Patterns in exoplanet demographics, compositions, and planetary system architectures are already revealing the most common outcomes of planet formation. I will discuss how I use exoplanet systems as laboratories to test theories of planet formation. My work ranges from characterizing broad patterns across many planetary systems to studying individual systems through their transits, transit timing variations, and radial velocities. In the next ten years, we will measure exoplanet multiplicities, orbital periods, masses, radii, eccentricities, inclinations, obliquities, dynamical interactions, atmospheric compositions, and host star properties using a combination of ground-based and space telescopes. These detailed observations of our exoplanet laboratories will allow us to place the solar system in its galactic context.

**University of Rochester**

**Physics & Astronomy Colloquium**

**Date:** Thursday, April 19, 2018

**Tea:** 3:30 pm, Bausch & Lomb Lobby

**Talk:** 3:45 pm, Bausch & Lomb 109