Rodrigo Luger

Astronomer

CONTACT

Univ. of Washington ··· Department of Astronomy
3910 15th Ave NE ··· Seattle, WA 98195 – U.S.A.
rodluger@uw.edu ··· staff.washington.edu/rodluger/

EDUCATION

University of Washington, Seattle, WA **2012 -**
··· Astronomy/Astrobiology PhD Candidate
··· MSc Astronomy, December 2013

Swarthmore College, Swarthmore, PA **2006 - 2010**
··· BA Astrophysics / English Literature minor, May 2010

University of St. Andrews, St. Andrews, Scotland **2009**
··· Junior Semester Abroad program

American School of Campinas, Campinas, Brazil **2002 - 2006**

RESEARCH EXPERIENCE

Researcher, Virtual Planet Laboratory @ UW **2012 -**
··· Research with Profs. Eric Agol, Rory Barnes, and Victoria Meadows
··· Developing methods to de-trend *K2* light curves and search for small potentially habitable transiting planets
··· Investigating the atmospheric evolution of planets in the habitable zone of M dwarfs

Student Researcher, Swarthmore College **2008 - 2009**
··· Research under Professor Eric Jensen on planet formation and T Tauri disks

SELECTED PUBLICATIONS

Luger, R., Lustig-Yaeger, J., Fleming, D. P., Tilley, M. A., Agol, E., Meadows, V. S., Deitrick, R., and Barnes, R. (2016) *The Pale Green Dot: A Method to Characterize Proxima Centauri b using Exo-Aurorae.* arXiv:1609.09075.

Meadows, V. S., Arney, G. N., Schwieterman, E. W., Lustig-Yaeger, J., Lincowski, A. P., Robinson, T., Domagal-Goldman, S. D., Barnes, R. K., Fleming, D. P., Deitrick, R., **Luger, R.**, Driscoll, P. E., Quinn, T. R., and Crisp, D. (2016) *The Habitability of Proxima Centauri b: II: Environmental States and Observational Discriminants.* arXiv:1608.08620.

Barnes, R., Deitrick, R., **Luger, R.**, Driscoll, P. E., Quinn, T. R., Fleming, D. P., Guyer, B., McDonald, D. V., Meadows, V. S., Arney, G., Crisp, D., Domagal-Goldman, S. D., Lincowski, A., Lustig-Yaeger, J., and Schwieterman, E. (2016) *The Habitability of Proxima Centauri b I: Evolutionary Scenarios.* arXiv:1608.06919.

Luger, R., Agol, E., Kruse, E., Barnes, R., Becker, A., Foreman-Mackey, D., and Deming, D. (2016) *EVEREST: Pixel Level Decorrelation of K2 Light curves.* AJ, in press.

Schwieterman, E. W., Meadows, V. S., Domagal-Goldman, S. D., Deming, D., Arney, G. N., **Luger, R.**, Harman, C. E., Misra, A., and Barnes, R. (2016) *Identifying Planetary Biosignature Impostors: Spectral Features of CO and O_4 Resulting*

from Abiotic O_2/O_3 Production. ApJL, 819, 13.

Luger, R. and Barnes, R. (2015) *Extreme Water Loss and Abiotic O_2 Buildup on Planets Throughout the Habitable Zones of M Dwarfs.* Astrobiology, 15, 119.

Luger, R., Barnes, R., Lopez, E., Fortney, J., Jackson, B., and Meadows, S. (2015) *Habitable Evaporated Cores: Transforming Mini-Neptunes into Super-Earths in the Habitable Zones of M Dwarfs.* Astrobiology, 15, 57.

Deitrick, R., Barnes, R., McArthur, B., Quinn, T., **Luger, R.**, Antonsen, A., and Benedict, G. (2014) *The Three-dimensional Architecture of the υ Andromedae Planetary System* ApJ 798, doi:10.1088/0004-637X/798/1/46.

Honors and Awards

ARCS Fellowship **2012 - 2014**
Achievement **R**ewards for **C**ollege **S**cientists Foundation Fellowship recipient

Bobby Berman Memorial Prize **May 2010**
Awarded to a graduating senior who has shown achievement, commitment, and leadership in Physics and Astronomy

The Phi Beta Kappa Society **May 2010**
Inducted member

Teaching Experience

Teacher, St. Luke's School, New Canaan, CT **2010 - 2012**
· · · Created and taught a rigorous, college-level elective course in astrophysics aimed at seniors interested in pursuing college classes in the field
· · · Taught three sections of an 11th grade physics class with a focus on astronomy, aiming to help students develop critical thinking and creative problem solving skills

Science Associate & Tutor, Swarthmore College **2009 - 2010**
· · · Directed weekly large-group study sessions for an introductory course in astronomy; tutored students in courses in mechanics and E&M

Teacher, MIT TOPS Program, Cambridge, MA **Summer 2009**
· · · Developed and taught classes on energy, light, and quantum mechanics to summer school students at MIT and at the Cambridge Museum of Science

Work Experience

IT Manager, Virtual Planet Laboratory @ UW **2013 -**
· · · Manage VPL's virtual conferencing system and network

Technical Support Associate, Swarthmore College **2006 - 2010**
· · · Identified and resolved software, hardware & network issues at the help desk

Leadership

Head Coach, St. Luke's School **2010 - 2012**
· · · Head coach of the JV Boys Soccer and Fencing Teams
· · · Assistant coach of the MS Tennis Team

Captain, Swarthmore College Fencing Team **2009 - 2010**
· · · Captain and founding member of the Sabre Team

Skills and Interests

Programming
Python, C, IDL, Mathematica, MATLAB, LaTeX, HTML, CSS, Visual Basic

Languages
Native speaker of English and Portuguese; intermediate knowledge of Spanish

Interests
Fencing, cycling, swimming, soccer, fiction writing, stargazing, hiking, climbing