Paul Brandon Rimmer

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Education

The Ohio State University
Ph.D., Physics, 2012.

University of Colorado Health Sciences Center
B.S., Physics, 2005 *cum laude*.

Dissertation

"The Chemical Impact of Physical Conditions in the Interstellar Medium"
Advisers: *Eric Herbst* and *Richard Freeman*

- Found an explanation for high abundances of small hydrocarbons at the edge of the Horsehead nebula
- Incorporated stellar formation rates into a gas-grain PDR model and applied this model to the Orion KL region. Modeled HEXOS and PRISMAS observations of the hydroxyl and water ions in Orion

Research

(Nov 2016 – Present)

Cavendish Astrophysics and MRC-LMB, University of Cambridge
Simons and Kavli Postdoctoral Research Fellow
Universal Life Project (Advisers: *Didier Queloz* & *John D. Sutherland*)

- Performing laboratory experiments and comparing with models of surface flux for different stars to determine how likely life is to start on the surfaces of planets around ultracool stars.
- Modelling atmospheric compositions and volcanic outgassing for the Early Earth and high rates of impacts on the atmospheric chemistry
- Organized several meetings, lectures and workshops

(Mar 2012 – Oct 2016)

School of Physics & Astronomy, University of St Andrews
European Research Council Postdoctoral Research Associate
LEAP Project (Line Manager: *Christiane Helling*)

- Constructed the STAND network for ion-neutral chemistry for use in Exoplanet Characterization and Prebiotic Chemistry Research.
- Determined the physical effect of cosmic ray ionization on the upper atmospheres of brown dwarfs and directly imaged exoplanets

Teaching

School of Physics & Astronomy, University of St Andrews
Instructor (with Annelies Mortier), Exoplanets: Detection and Characterisation, 2015
Instructor, Chemical Kinetics for Astronomers, 2015

Students

Guy Brett-Robertson (2014 MSc, with Kenneth Wood)
Matthew Swayne (2014 Summer Student)
Aleksandra Ardaseva (2015 BSc, with Christiane Helling)
Harry Holt (2018 Part III Student, with Didier Queloz and Samantha Thompson)
Alec Granville-Willett (2018 Part III Student, with Alex Archibald and Paul Griffiths)

Grants and Awards

P.I. on Proposal for Lorentz Center Workshop *£3500*
Other PI's: *Claire Cousins*, *Karin Öberg*, *Claudia Bonfio*, *Inge Loes ten Kate* & *Mihkel Kama*

Simons Foundation and ReCoVER (with Alex Archibald) *£3000*
In support of the day conference
"Climate Science, Atmospheres and Life: from the Earth and Beyond"

Drafted the Proposal for Present Fellowship *2yrs*
PI's: *Didier Queloz* & *John D. Sutherland*, 2016-2018

Royal Astronomical Society Grant *£2000*
In support of the conference "Electrification in Dusty Atmospheres"

David DeMartini Scholarship *$1000*
For outstanding graduate research at The Ohio State University

Papers

6 First Author, 20 Total, *663 Citations*
`http://www.mrao.cam.ac.uk/~pbr27/papers.html`

References

Prof Eric Herbst
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Dr Christiane Helling
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Prof Didier Queloz
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Dr John D. Sutherland
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Prof Jonathan Tennyson
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Prof Alan Watson
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