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### Research Interests

- Astrobiology, Planetary Science, Origin of Life, Elemental abundances in life and its environment

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### Honours & Awards

- Best Talk Prize at the 2011 Stromlo Student Christmas Seminars.
- Vice-Chancellor's 2011 Award for Community Outreach recognising the contributions of the Student Outreach Team at the Research School of Astronomy and Astrophysics at ANU (\$4000 for group).
- Community Spirit Award from UniLodge ANU for outstanding contributions as IT Support Coordinator during 2011.
- Best Poster Award for two posters presented at the 2011 European Workshop on Astrobiology.
- 3<sup>rd</sup> prize at *The Space Factor* student contest at the 2011 European Workshop on Astrobiology.
- 2<sup>nd</sup> prize for poster presented at the ANU 2010 ResearchFest (\$350).
- Australian Postgraduate Award for PhD studies commencing in 2009.
- Honours Year Scholarship at the Australian National University in 2008 (\$4000).
- Fluor Foundation scholarship by Scholarship America in 2008 (\$1900).
- 'Best Chemical OH&S Poster' in 2007 at the University of Western Australia in 2008.
- Summer Research Scholarship at the Australian National University in 2007.
- Major prize of the 'Most Promising Science Communicator' in the Western Australian 2004 Student Research Scheme, organised by CSIRO Education.

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### Grant Activity

- \$500 grant from Geological Society of Australia to present at the 2012 International Geological Congress in Brisbane, Australia.
- \$300 grant from CSIRO and ANU to support education and outreach activities during the 2011 National Science Week Experimenton at the CSIRO Discovery Centre, Canberra, Australia (\$600 grant awarded as a team).
- \$2500 grant from the Australian Centre for Astrobiology, International Society for the Study of the Origin of Life and Astrobiology Society, and ANU (Vice-Chancellor's HDR travel grant) to present at the 2011 Origins Conference in Montpellier, France.
- \$400 grant from the European Astrobiology Network Association to present at the 2011 European Workshop on Astrobiology in Cologne, Germany.
- \$400 grant from the ANU Student ANU Student Recruitment Office to present to present guest lectures at 3 high schools in Perth, Australia.
- \$3500 grant from the organising committee to participate in the 2011 Astrobiology Winter School in Hawaii, USA.
- \$100 grant from RSES to participate in a science communication workshop by the Australian National Centre for Public Awareness of Science in Canberra, Australia in 2010.
- \$400 grant from RSES and the organising committee to present at the 2010 Australian Space Science Conference in Brisbane, Australia.
- \$1600 grant from RSES and RSAA for demonstration flights for the EARTHRISE program.
- \$3600 grant from the organising committee and RSES to present at the 2010 Astrobiology Graduate Conference in Tällberg, Sweden.
- \$250 grant from the Geological Society of Australia to present at the 2010 Australian Earth Sciences Convention in Canberra, Australia.
- \$2300 grant from ANU (Vice-Chancellor's HDR travel grant) and the NASA Astrobiology Institute to present a talk and poster at the 2010 Astrobiology Science Conference in Texas, USA.
- \$2000 grant from the organising committee to present a poster at the 2010 Gordon Research Conference and Seminars on the Origin of Life in Galveston, USA.

- \$300 grant from RSES to present at the 2009 Australian Space Science Conf. in Sydney, Australia.
- \$2700 grant from the organising committee to present a poster at the 2009 NASA Astrobiology Graduate Conference in Washington, USA.
- \$3800 grant from RSES and the organising committee to attend the 2009 International Astrobiology Summer School in Santander, Spain.
- \$1100 grant by RSAA to participate in the 2008 Astronomical Society of Australia's Harley Wood Winter School in Perth, Australia.

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## Education

### **PhD student: Planetary Science Institute, Australian National University      since Apr 2009**

- The research focuses on tracing the origin and evolution of life on Earth using the results of analyses of the elemental composition of phylogenetically deeply rooted bacteria and archaea, and their environments.
- Supervisory panel: Charles H. Lineweaver, Jochen J. Brocks, Trevor R. Ireland, Steve Eggins, John A. Baross (University of Washington). Advisory panel: Ulrike Mathesius, Michael Ellwood, Graham Mortimer, Linda McMorrow, Andrew G. Christy

### **Bachelor of Science (1<sup>st</sup> class Honours), Australian National University      2008**

- Undertook research under the supervision of Dr. Charley Lineweaver studying the elemental abundances of life on Earth, the Oceans and the Sun.
- Performed analysis of the elemental composition of *E. coli* to identify resources required for future studies of the elemental composition of bacteria and archaea.
- Completed courses in Planetary Geology, Astrophysics, Chemistry and Science Communication.

### **Bachelor of Science: University of Western Australia      2005 - 2007**

- Consistently achieved High Distinctions for the 2<sup>nd</sup> and 3<sup>rd</sup> years with GPA of 6/7.
- Completed courses in Chemistry, Mathematics, Physics, Astronomy and Biology.

### **Secondary Education: Rossmoyne Senior High School, Perth, Australia      2004**

- Subjects: Biology, Chemistry, Physics, Calculus, Applicable Mathematics and English.
- Attained a Tertiary Entrance Rank of 91.35.

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## Research Experience

### **Research (3 month project): with Prof. John Watling, University of WA      2007**

- Performed elemental analyses of marine sponges using atomic absorption and emission spectrometry and studied nutrient uptake in mussels with the aim of identifying relationships between known metabolic pathways in the species and the composition of its environment.

### **Summer Research Scholarship: with Dr. Charles H. Lineweaver, ANU      Nov 2006 – Jan 2007**

- Completed a 10 week research project concerned with the abundance of elements in organisms in the context of the origin and evolution of life.

### **Undergraduate Researcher: with Dr. Susan Barker, UWA      intermittently during 2005-2007**

- Identified genes contributing to beneficial symbiosis between plants and fungi.
- Developed reaction protocols for DNA extraction and PCR amplification of the DNA.

### **Student Research Scheme: with Dr. Patrick Finnegan, UWA      2004**

- Completed a research project investigating mitochondrial protein synthesis utilising molecular biology techniques to confirm the identity of transcription factor cDNA.
- Prepared a public poster and a report and presented results to high school students.