

---

### Summary

I have more than 10 years of experience in research, data analysis, problem-solving and project management. I have undergraduate and postgraduate training in a broad cross-section of science disciplines including Earth and planetary sciences, astronomy, biology and chemistry. I also have excellent communication, teaching and mentoring skills and experience in presenting and authoring research results to various audiences including in-field experts, media and the general public. I have worked in a variety of roles in both academic and commercial settings and have experience leading and actively participating in teams of different sizes.

---

### Research & Education Experience

#### Lecturer & Academic Coordinator, ANU

April & May 2019

- Teaching and coordination of two Professional Practice courses for approximately 300 Masters of Engineering and Computing students offered by Australian National Centre for the Public Awareness of Science and ANU College of Engineering & Computer Science
- 2-day workshops on Publishing with LaTeX for HDR students hosted at the ANU Library

#### Astrobiology Researcher, NASA Frontier Development Lab

July & August 2018

- Developed a framework to couple generalised biology and atmosphere dynamics to evaluate the habitability of exoplanetary atmospheres
- Worked with a team of scientists and machine learning experts in a 8-week research accelerator supported by NASA, the SETI Institute and Google Cloud

#### Post-doctoral Visiting Fellow, Australian National University

2018 - 2019

- Research focuses on the study of the origin and evolution of life on Earth by analysing the elemental composition of life forms and the role of biology in maintaining habitability of planets
- Developing an online EdX MOOC course on Astrobiology

#### Australia Awards Endeavour Post-doctoral Research Fellow

2016

- University of Washington (Mentor: John Baross) & University of Hawaii (Mentor: Mike Mottl)
- Investigated the types of hydrothermal systems most likely to host the earliest life forms on Earth

#### PhD Candidate: Planetary Science Institute, Australian National University

2009 - 2015

- Thesis Title: *The Origin and Evolution of Life on a Pale Blue Dot: Astrophysical, Geochemical and Biological Constraints on Habitability* (Supervisor: Charles H. Lineweaver)
- Quantified major element fractionation episodes during planetary formation and subsequent processes that led to Earth's biosphere
- Indirectly estimated the bulk elemental composition of the Last Universal Common Ancestor from elemental abundances in extant organisms
- Identified the most fundamental features common to all life on Earth and constraints for habitable zones on Earth and other planets

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

2008

- Undertook research under the supervision of Charles H. 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 overall GPA of 6/7
- Completed courses in Chemistry, Mathematics, Physics, Astronomy and Biology

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

- Performed elemental analyses of marine sponges and studied nutrient uptake in mussels to identify relationships between metabolic pathways and the composition of its environment

**Summer Research Scholarship: with Dr. Charles H. Lineweaver, ANU****2007**

- Research on the abundance of elements in organisms in the context of the evolution of life

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

- Identified genes contributing to beneficial symbiosis between plants and fungi

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

- Confirmed the identity of transcription factor cDNA involved in mitochondrial protein synthesis

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

---

**Honours & Awards**

- Most Creative Presenter - 2018 NASA Artificial Intelligence Frontier Development Lab.
- Most Unusual / Quirky Story Award – ANU Media Awards 2016.
- Best Oral Presentation, Gordon Research Seminars on the Origins of Life in 2016.
- Recipient of Australia Awards Endeavour Post-doctoral Research Fellowship in 2015.
- Best Postgraduate Oral Presentation - Runner Up, 2015 Australian Space Science Conference.
- Awarded 2014 Resident of the Year by UniLodge@ANU.
- Student of the Year Finalist at the 2013 ANU Alumni Awards.
- Best Talk Prize at the 2014, 2012 and 2011 Stromlo Student Christmas Seminars.
- Australian delegation member of 2014 Commonwealth Science Conference (India) and 2013 Lindau Nobel Laureate Meeting (Germany).
- 2012 Robert Hill Memorial Prize for displaying excellence in research, good communication skills, proven publications record, and the ability to communicate research to a broad audience.
- Best Postgraduate Oral Presentation at the 2012 Australian Space Science Conference.
- 1<sup>st</sup> Prize and Audience Favourite Prize at the 2012 "3 Minute Thesis Competition" at ANU (represented the university at the national competition).
- 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.
- Community Spirit Award from UniLodge@ANU for outstanding contributions 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.
- Australian Postgraduate Award for PhD studies commencing in 2009.
- Honours Year Scholarship at the Australian National University in 2008.
- Fluor Foundation scholarship by Scholarship America in 2008.
- '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.
- 'Most Promising Science Communicator', Western Australian 2004 CSIRO Student Research Scheme

---

## Professional Experience

### **Project Manager, Tuckwell Scholarship Program, ANU**

**2019**

- First point of contact for scholarship enquiries by phone and email and responsible for providing quick and efficient assistance to prospective candidates, parents, teachers and career advisers.
- Assisted current Scholars with matters relating to their Scholarship and Scholars House activities
- Reviewed and updated the Tuckwell Scholarship website and produced the weekly newsletter
- Tested and debugged the ANU and Tuckwell scholarship application portal before and during the application period. Coordinated the registration of application referees and assessors
- Assisted with payment and reconciliation of invoices and organised weekly Scholar event logistics
- Minuted meetings, drafted formal correspondence for program Director, assisted with Orientation Day, Commencement Weekend and Camp for Scholars and produced feedback reports

### **Residential Life Manager, UniLodge@ANU**

**2016 – 2018**

- Deputy Head of Hall at the largest residence at the university (2000 students)
- Managed a team of 80 individuals, including 5 junior staff and responsible for all their day-to-day finance and HR requirements
- Provided mentorship, pastoral care, mental health first aid to students from a wide range of backgrounds residing in high density on-campus accommodation at the university
- Managed the Community Spirit Program (\$250,000 fund) supporting a diverse group of students
- Developed comprehensive well-being and academic initiatives aligned with the university's vision
- Implemented new administrative, accounting and incident management processes to enhance student experience and improve business practices

### **Senior IT Coordinator, UniLodge@ANU**

**2008 - 2015**

- Supporting the general manager in administration of the Community Spirit Program
- Provided on-call assistance to residents with their I.T. Issues
- Managed a team of 4 IT Assistants to deliver a rapid response for after-hours IT support
- Designed advertising material, websites, project management systems and published newsletters

### **Project Assistant, Undergraduate Research Journal, ANU**

**2010 - 2012**

- Reviewed articles as an editor for the journal and mentored the editorial team
- Designed and implemented an online manuscript submission and tracking system

### **Finance Officer, Research School of Earth Sciences, ANU**

**2010 – 2011**

- Responsible for annual Inventory Audit at the Research School of Earth Sciences

### **Technical Officer, Research School of Earth Sciences, ANU**

**2011 – 2012**

- Responsible for implementation of an online Chemical Inventory System
- Communicated OH&S policies to laboratory users and provided training for new users

### **Tutor, College of Science, ANU**

**2010 – 2011**

- Responsible for tutoring first year advanced physics students
- Consistently received good feedback on teaching and tutoring quality

### **Outreach Officer, Research School of Astronomy & Astrophysics, ANU**

**2010 – 2013**

- Hosted outreach events and private tours for school groups and public events