

## **Luke J. Shingles**

### **Email**

luke.shingles@anu.edu.au

### **Citizenship**

Australian, Irish (expected 2015)

### **Languages**

English (native), Mandarin Chinese (basic)

### **Address**

Research School of Astronomy and Astrophysics  
Mount Stromlo Observatory, Cotter Road  
Weston ACT 2611, Australia

### **Research interests**

Numerical analysis, nucleosynthesis, stellar physics, globular clusters

### **Programming languages/API experience**

Fortran, Python, C, C++, Java, OpenMP

### **Education**

*Doctor of Philosophy (Astrophysics)*, Australian National University, 2012-2015 (expected)

Thesis: 'The Chemical Evolution of Heavy Elements in Globular Clusters'

Department: Research School of Astronomy & Astrophysics

Supervisor: Amanda Karakas

Advisors: David Yong, Gary Da Costa, John Lattanzio (Monash), Richard Stancliffe (Bonn)

*Bachelor of Science with Honours (First Class)*, Australian National University, 2008–2011

Majors: Astronomy & Astrophysics, Theoretical Physics, Mathematics

Thesis: 'The Sulfur Anomaly in Planetary Nebulae and Post-AGB Stars'

Department: Research School of Astronomy & Astrophysics

Supervisor: Amanda Karakas

*Bachelor of Information Technology*, Queensland University of Technology, 2003–2007

Major: Software Engineering

### **Awards and Scholarships**

RSAA Alex Rodgers Travelling Scholarship, 2014

Astronomical Society of Australia Travel Assistance, 2014

RSAA Honourable Mention for Best Student Paper Prize, 2013

IAU Travel Grant for IAUS298, 2013

Australian Postgraduate Award, 2012-2015

International Year of Astronomy Honours Scholarship, 2011

RSAA Summer Research Scholarship, 2010

### **Talks and Poster Presentations**

Contributed Talk, ANITA Workshop, Canberra, Australia, Feb 2015

Contributed Talk, Mount Stromlo Student Christmas Seminars, Canberra, Australia, Nov 2014

Group Talk at Stars Meeting, Institute of Astronomy, Cambridge, UK, Sept 2014

Poster Presentation, Why Galaxies Care About AGB Stars, Vienna, Austria, July 2014  
Contributed Talk, Nucleosynthesis in AGB Stars, Bad Honnef, Germany, July 2014  
Contributed Talk, Overcoming Great Barriers in Galactic Archaeology II, Palm Cove, Australia, 2014  
Group Talk at Stellar Lunch, ANU RSAA, Australia, August 2013  
Poster Presentation, IAUS298 Setting the Scene for GAIA and LAMOST, Lijiang, China, May 2013  
Poster Presentation, Astronomical Society of Australia Meeting, Sydney, Australia, 2012  
Poster Presentation, Astronomical Society of Australia Meeting, Adelaide, Australia, 2011

## Teaching Experience

*ANU-ASTRO2x Exoplanets*

Australian National University  
Jun–Sep 2015

Teaching assistant for edX online course run by Brian Schmidt and Paul Francis on exoplanet search techniques – pulsar timing, radial-velocity variations, transits, microlensing, and direct imaging with adaptive optics.

*ANU-ASTRO1x Greatest Unsolved Mysteries of the Universe,*

Australian National University  
Mar–Jun 2015

Teaching assistant for edX online course run by Brian Schmidt and Paul Francis covering the expanding universe, dark energy, dark matter, and gamma-ray bursts.

*ASTR3007 From Stars to Galaxies*

Australian National University  
Feb–Jun 2013, May–Jun 2014

Teaching assistant for the third-year course on stellar evolution & nucleosynthesis, galactic structure & dynamics, and introductory computer programming. Duties included marking assignments and answering student questions in the classroom.

*PHYS1201 Physics 2*

Australian National University  
Jul–Nov 2012, Jul–Nov 2013

Teaching assistant for first-year course covering introductory special relativity, electromagnetism, waves & optics, and thermodynamics. Duties included marking assignments and answering student questions in the classroom.

## Referees

### **Dr. Amanda Karakas**

Future Fellow, Research School of Astronomy & Astrophysics  
Australian National University  
amanda.karakas@anu.edu.au

### **Prof. Gary Da Costa**

Professor, Research School of Astronomy & Astrophysics  
Australian National University  
gary.dacosta@anu.edu.au

### **Dr. Chiaki Kobayashi**

Senior Lecturer, Centre for Astrophysics Research  
University of Hertfordshire, UK  
c.kobayashi@herts.ac.uk