

HEATHER PRINCE

Department of Astrophysical Sciences
Princeton University
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EDUCATION

- 2016-2021 **PhD in Astrophysical Sciences** in progress
Advisor: Professor Jo Dunkley
Princeton University, USA
- 2018 **Master of Arts**
Awarded on completion of the General Examinations
Department of Astrophysical Sciences
Princeton University, USA
- 2014-2015 **Master of Science** received cum laude
Thesis: Gravitational Lensing of the Cosmic Microwave Background:
Techniques and Applications
Advisor: Professor Kavilan Moodley
University of KwaZulu-Natal, South Africa
- 2013 **Bachelor of Science Honors** received summa cum laude
Research Project: Real Space Gravitational Lensing Reconstruction
from CMB Temperature and Polarization
Advisor: Professor Kavilan Moodley
University of KwaZulu-Natal, South Africa
- 2010-2012 **Bachelor of Science** with distinction
Majors: Mathematics and Physics
Rhodes University, South Africa

AWARDS

- Princeton 2016 **Princeton University First Year Fellowship**
Dean's Grant
- UKZN 2014 **Vincent Maphai Scholarship**
awarded to the top-ranked Master's student in the university
Square Kilometer Array MSc Bursary
- Rhodes 2012 **Rhodes University Foundation Scholarship**
awarded to the top student graduating with a bachelor's degree
David Williams Memorial Prize for Mathematics
awarded to the top third year Mathematics student
Alexander Ogg Prize for Physics
in recognition of Academic Achievement
Academic Honors
Investec Rhodes Top 100 Award for Academic Excellence in Science

Rhodes 2011	Rhodes Governors Scholarship awarded to the top second year student in the Faculty of Science or Pharmacy
	Maryam Babangida Scholarship awarded to the top female second year student
	Sydney Cruise Memorial Prize awarded to the top second year Mathematics student
	Trevor Williams Prize awarded to the top second year Physics student
	Janinne Franke Prize awarded to the top second year Computer Science student

CONFERENCE PRESENTATIONS

March 2019	Cosmology on Safari , South Africa
January 2018	Atacama Cosmology Telescope collaboration meeting , Princeton
December 2015	Square Kilometre Array Bursary Conference , Stellenbosch, South Africa
September 2015	University of KwaZulu-Natal Research Day , Pietermaritzburg, South Africa Award for runner up to best presentation
January 2015	Cosmology on Safari , Bonamanzi Game Reserve, South Africa
December 2014	Square Kilometre Array Bursary Conference , Stellenbosch, South Africa Award for runner up to best MSc Astronomy presentation
November 2014	South African Gravity Society Conference , Cape Town, South Africa Award for best postgraduate student oral presentation
November 2014	Dark Side of the Universe Conference , Cape Town, South Africa
September 2014	University of KwaZulu-Natal Research Day , Pietermaritzburg, South Africa
July 2014	South African Institute of Physics Conference , Johannesburg, South Africa Award for best MSc oral presentation in the Astrophysics division

PUBLICATIONS

Prince, H., Moodley, K., Ridl, J., Bucher, M. *Real space lensing reconstruction using cosmic microwave background polarization*. Accepted for publication in JCAP, eprint arXiv:1709.02227 (2018)

Partridge, B., Bonavera, L., López-Caniego, M. et. al. (including **Prince, H.**) *Can CMB Surveys Help the AGN Community?* *Galaxies*, 5, 47 (2017)

WORKSHOPS ATTENDED

December 2013 & 2014	Radio Astronomy School , University of KwaZulu-Natal, Durban, South Africa Lectures on radio astronomy theory and techniques, data analysis group project
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January 2014

Exploiting Nature's Telescopes: A first look at the Hubble Space Telescope Frontier Fields, Durban, South Africa
Gravitational lensing conference and HST data analysis project

COMPUTER SKILLS

Programming Languages	Confident: Python (used extensively in my master's research) Competent: Java, C++ (one semester coding in each as an undergraduate)
Markup Languages	L ^A T _E X
Operating Systems	Mac, Windows, some Linux

TEACHING, MENTORING AND OUTREACH

Spring 2019	Instructor for Prison Teaching Initiative Co-taught a mathematics course in a correctional facility <i>Princeton University, USA</i>
2018-2019	Undergraduate mentoring Mentored an undergraduate student as part of the Undergraduate Women in Physics Program <i>Princeton University, USA</i>
Fall 2017	Assistant in Instruction for AST205: Planets in the Universe Hold office hours and precepts, set and grade assignments and exams <i>Princeton University, USA</i>
2014-2015	Astrophysics and Cosmology Research Unit (ACRU) Tutor Tutor undergraduate students with bursaries from ACRU in physics <i>University of KwaZulu-Natal, South Africa</i>
2014-2015	School Presentations Talks on astrophysics at four schools for ACRU outreach
2012	Physics Lab Demonstrator Demonstrate for first year physics and electronics practicals <i>Rhodes University, South Africa</i>
2011-2012	Physics Academic Development Program Tutor Additional tutoring for first year physics students <i>Rhodes University, South Africa</i>
2010	Khanye Maths and Science Club Tutor Tutor students from underprivileged high schools in mathematics and physics <i>Rhodes University, South Africa</i>

REFERENCES

Jo Dunkley

Professor of Physics and Astrophysical Sciences

Princeton, USA

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Kavilan Moodley

Astrophysics and Cosmology Research Unit

School of Mathematics, Statistics and Computer Science

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Martin Bucher

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