

# HEATHER PRINCE

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Department of Astrophysical Sciences  
Princeton University  
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## EDUCATION

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| 2016-2021 | <b>PhD in Astrophysical Sciences</b> in progress<br><i>Princeton University, USA</i>   |
| 2014-2015 | <b>Master of Science</b> received cum laude<br>Thesis: Gravitational Lensing of the Cosmic Microwave Background:<br>Techniques and Applications<br>Advisor: Professor Kavilan Moodley<br><i>University of KwaZulu-Natal, South Africa</i>                          |
| 2013      | <b>Bachelor of Science Honors</b> received summa cum laude<br>Research Project: Real Space Gravitational Lensing Reconstruction<br>from CMB Temperature and Polarization<br>Advisor: Professor Kavilan Moodley<br><i>University of KwaZulu-Natal, South Africa</i> |
| 2010-2012 | <b>Bachelor of Science</b> with distinction<br>Majors: Mathematics and Physics<br><i>Rhodes University, South Africa</i>   |

## AWARDS

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

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

## CONFERENCE PRESENTATIONS

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

## PUBLICATIONS

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**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

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December 2013 & 2014	<b>Radio Astronomy School</b> , 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

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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 <sup>A</sup> T <sub>E</sub> X
Operating Systems	Mac, Windows, some Linux

## TEACHING, MENTORING AND OUTREACH

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

## REFERENCES

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