

# Samuel Hinton

B.E. Software Engineering (Hon), B.Sc Physics (Hon)

## Contact

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Github  
Personal

References available on  
request.

## Programming

JavaScript,  
HTML5 & CSS3  
Python, Java  
C, C++, Matlab  
SQL, LaTeX

Bash, SVN, Git,  
Maven, Node.js,  
AngularJS

## Interests

astrophysics  
cosmology  
computational physics  
science communication  
software design

## Communication

2016  
University Tutoring  
Science Demo Troupe  
2015  
College Tutoring  
Honours student address  
High school astronomy  
talk  
2014  
Physics Review  
Representative  
5-Minute Physics  
2010  
Professional Tutoring

## Education

- 2010–2015 **Bachelor of Engineering** (Software) University of Queensland  
Awarded 1<sup>st</sup> class honours and graduated top of engineering cohort. Undergraduate engineering thesis entailed writing the web-application Marz to redshift spectra from the AAOmega spectrograph for the OzDES team.
- 2010–2016 **Bachelor of Science** (Physics) University of Queensland  
Awarded 1<sup>st</sup> class honours and graduated top of science cohort. Thesis project investigated the 2D BAO signal found in the final Wigglez dataset to constrain cosmological parameters.

## Experience

- 2010–2014 **GBST** Brisbane, Queensland, Australia  
*Software Developer*  
Developed business intelligence reporting solutions for clients, designing and developing server and client based web application code, creation of large scale SQL queries, experience optimising queries, databases and applications for network, processing and memory constraints, developed back-end server code and front-end web applications. Prioritised implementation tasks for strict release schedules, delegated work tasks for other developers and reviewed incoming work for quality.
- 2015–2016 **Gemini & Australian Astronomical Observatory** La Serena, Chile  
*Research Intern*  
Internship for the Australian Gemini Undergraduate Summer Studentship. Utilised photometric data of Maffei 1 to determine globular cluster candidates and their properties for spectroscopic follow-up. Utilised data reduction pipelines, automated analysis methods in Python, and applied machine learning techniques to perform object classification.
- 2016–Now **Lawrence Berkeley National Laboratory** Berkeley, California  
*Research Fellowship*  
Research fellowship at LBNL to work on Bayesian Hierarchical Modelling and its applications to Supernova Cosmology. Specifically, investigating how to use high dimensional hierarchical models to model individual supernova instead of populations to provide better constraints on cosmology using supernova discovered by the Dark Energy Survey.

## Awards

- 2016 **Bok Prize** Outstanding research in Astronomy Astronomical Society of Australia
- 2016 **Australian Postgraduate Award** Australian Government
- 2015 **Science Faculty Graduate of the Year** UQ
- 2015 **University Medal (Science)** UQ
- 2015 **Australian Gemini Undergraduate Summer Studentships** AAO
- 2015 **A.W. Oakes Scholarship** St John's College

2015	<b>AAO Honours Scholarship</b>	Australian Astronomical Observatory	
2015	<b>Harriet Marks Bursary</b>		UQ
2015	<b>Australian Institute of Physics Prize</b>		UQ
2015	<b>Rhodes Scholarship Finalist</b>	Oxford University	
2015	<b>10x Deans Commendation</b>		UQ
2015	<b>Helen Thompson Prize for All Round Excellence</b>	St John's College	
2014	<b>University Medal (Engineering)</b>		UQ
2014	<b>David Andrew Krnak Memorial Prize</b>	Top graduating engineering student.	UQ
2014	<b>UQ Future Leader</b>		UQ
2014	<b>IEEE Student Thesis Prize</b>		IEEE
2014	<b>IET Student Prize</b>	The Institution of Engineering and Technology	
2014	<b>GroundProbe Prize</b>		UQ
2014	<b>RWH Hawken Scholar</b>	(2010–2014) Awarded to highly performing students	UQ
2014	<b>UQ Summer Research Scholarship</b>		UQ
2012	<b>Exxon Mobil Achievement Award</b>	Top mechanical engineering student.	UQ
2011	<b>Alstom Prize</b>	Top electrical engineering student.	UQ
2011	<b>Walter Bruce Darker Scholarship</b>	Top 3rd year engineering student.	UQ
2010	<b>UQ Academic Excellence Scholarship</b>		UQ
2010	<b>ICT Enabling Scholarship</b>		UQ
2010	<b>John Black Prize</b>		UQ
2009	<b>OP1</b>	Highest possible secondary education exit score.	QTAC

## Publications

Measuring the 2D baryon acoustic oscillation signal of galaxies in WiggleZ: cosmological constraints

Hinton, S. R. et al.

*MNRAS* 464 (Feb. 2017) pp. 4807–4822. 2017

The 2-degree Field Lensing Survey: design and clustering measurements

Blake, C. et al.

*MNRAS* 462 (Nov. 2016) pp. 4240–4265. 2016

ChainConsumer

Hinton, Samuel

*JOSS* 1.4 (Aug. 2016). *The Open Journal*, 2016

Marz: Manual and automatic redshifting software

Hinton, S.R. et al.

*Astronomy and Computing* 15 (2016) pp. 61–71. 2016

Discovery of a  $z=0.65$  Post-Starburst BAL Quasar in the DES Supernova Fields

Mudd, D. et al.

ArXiv e-prints (June 2016). 2016

OzDES multifibre spectroscopy for the Dark Energy Survey: first-year operation and results

Yuan, F. et al.

*MNRAS* 452 (Sept. 2015) pp. 3047–3063. 2015