

Alexandra Amon

Kavli Fellow

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Kavli Institute for Particle
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Research

- Sep 2018 – present **Kavli Fellowship, Stanford University / SLAC National Accelerator Laboratory,**
- Jun 2013 – Aug 2013 **Summer research scholarship, Imperial College London**
Advisor: Prof. A. Heavens
- Jun 2012 – Aug 2012 **Royal Society Summer Fellowship, University of Edinburgh**
Advisors: Dr T. Kitching, Dr M. Viola

Education

- Sep 2014 – Aug 2018 **Ph.D. Physics, University of Edinburgh**
“Weak lensing with the ESO Kilo-Degree Survey”
Supervisors: Prof. C. Heymans, Prof. C. Blake
- Sep 2009 – Jun 2014 **Master of Physics, University of Edinburgh - First Class with Honours**
“Scalar Field Dark Energy”
Supervisor: Prof. A. Taylor

Honours and Grants

- 2020 [Rising Stars Workshop Attendee](#)
- 2019 [Stanford Innovate Proposal for Program for Astrophysics Visitors Exchange at Stanford* : 25,000 USD](#)
- 2019 [Royal Astronomical Society’s Michael Penston Thesis Prize](#)
- 2019 [Institute of Physics Jocelyn Bell Burnell Medal and Prize Runner-up](#)
- 2018 SUPA Short-Term Travel Grant: 5,000 USD
- 2017 [LSST Data Science Fellowship Programme: 12,000 USD](#)
- 2017 Best Conference Talk at DEX XIII conference
- 2014 STFC PhD Studentship: ~ 100,000 USD
- 2013 Imperial College Summer Scholarship: 2,500 USD
- 2012 Royal Society Summer Research Fellowship, University of Edinburgh: 1,500 USD
- 2019 National Scholarship from Trinidad and Tobago for Undergraduate Degree: ~ 100,000 USD
- 2008 Scholar, International Summer School for Young Physicists, Perimeter Institute
- 2007 Euler Award, Trinidad and Tobago Mathematics Olympiad

Selected Talks

- (Invited) American Astronomical Society: DES Cosmology Overview, USA 01/2021
- (Invited) Cosmology Seminar: DES Cosmology Overview, Berkeley, CA 10/2020
- (Invited) Cosmology Seminar: DES Cosmology Overview, Fermilab, IL 08/2020
- Cosmology From Home: DES weak lensing systematics 08/2020
- KITP Galaxy Halo Connection: Lensing without Borders, USA 01/2020
- Texas Symposium, DES Cosmic Shear, Portsmouth, UK 12/2019
- Royal Society Ancient Heavens, Lensing without borders, London, UK 03/2019
- BCCP Lensing: Lensing without borders, Berkeley, CA 01/2019
- (Invited) LSST DESC meeting: KiDS Cosmology Overview, SLAC, CA 03/2018
- Dark Universe: Testing gravity with KiDS, Garching, Germany 11/2017
- (Invited) Cosmology seminar: KiDS Cosmology Overview, UC Berkeley 10/2017
- (Invited) Dark Sector seminar: KiDS Cosmology Overview, NASA JPL 09/2017
- (Invited) KIPAC Tea talk: : Testing gravity with KiDS, Stanford 09/2017
- Cosmology seminar, UC Santa Cruz 08/2017
- Observations in Cosmology: Comparing same-sky lensing data, Benasque, Spain 08/2017
- DEX XIII: KiDS Cosmology Overview, Edinburgh, UK 01/2017
- GravLens: Comparing same-sky lensing data Leiden, Netherlands 07/2016
- KiDS-GAMA-VIKING: Testing gravity with KiDS, Edinburgh, UK 05/2016
- 2dFLenS-OzDES conference: Testing gravity with KiDS, Swinburne, Australia 03/2015

Research Achievements

- Played a pivotal role in the Dark Energy Survey Year 3 weak lensing, leading the cosmic shear results and coordinating three analysis teams
- Developed and applied leading methods for weak lensing shear systematics and redshift calibration [Amon+2017; Gatti, Sheldon & Amon+2020; Jarvis, Bernstein & Amon+2020; ; Myles, Alarcon & Amon+2020]
- Co-led the processing of deep imaging fields for redshift calibration [Hartley, Choi & Amon+2020]
- Pioneered the Lensing Without Borders cross-survey collaboration to test the consistency of weak lensing results [Amon+2017; Leauthaud & Amon+2020]
- Performed a combined probe test of General Relativity (E_G) with weak-lensing and spectroscopic data [Amon+2017]

Leadership positions

Dark Energy Survey Builder 2020-

Dark Energy Survey Team Coordinator for 1. Cosmic Shear 2. Deep Fields and 3. Shear Testing 2018 -

Commissioning co-Liason with Tony Tyson between Rubin, DESC and the Weak Lensing group 2018 -

Kilo-Degree Survey Analysis Team Coordinator - bright-time data 2014 - 2016

Teaching and Mentoring

Advisor: Jamie McCullough, PhD Stanford, “*Understanding blending with image simulations*”, 2020 - ongoing

Advisor: Sana Gabriel, BSc University of the West Indies, “*Understanding AGN with weak lensing*”, 2019 - 2020

Advisor: Justin Myles, PhD Stanford, “*Redshift estimation with machine learning*”, 2018 - ongoing

Co-advisor: Angus Cameron, MSc Edinburgh University, “*Lensing with troughs*”, 2017

Tutor *Fourier Analysis & Statistics, General Relativity* University of Edinburgh, 2014 – 2017

Science Communication

SciComm on Instagram: @astroalexamon (2018 -)

Public Lecture, Stanford University (2020)

Public Lecture, University of the West Indies (2020)

Director Brightest Stars Foundation (2019 -)

Caribbean STEM media article (2020)

Career and STEM inspiration discussion - with Plumstead Manor Girls High School, London (2020)

IOP Jocelyn Bell Burnell Prize Finalist Lecture (2019)

‘Ancient Skies’ PBS Documentary Series (2019)

‘The Stream’, Al Jazeera, Dark Matter edition (2018)

Fermilab’s ‘Symmetry’ magazine article (2018)

‘Space Shed’ event and podcast (Fall 2018)

Re-designed delivered the Office of Life Long Learning’s Course, “*The Distant Universe*”, 2015 - 2018

‘Women Are Boring’ magazine article (2018)

‘Shining Light on Dark Matter’ documentary (2018)

‘Astronomy on Tap’ speaker, Edinburgh (2018)

Royal Observatory Edinburgh’s Winter Talk (2017)

Scotland Girl Guiding science session (2017)

Organiser for ‘Pint of Science’, Edinburgh (2017)

Scottish Astronomical Society lecture, Aberdeen (2016)

‘What’s Up’ Lecture, Edinburgh (2016)

ROE Open Day speaker, Edinburgh (2014-2016)

UoE Physics Undergrads visit high schools (2011-2012)

Diversity and Inclusion

Co-founder, PAVES Program - hosting researchers from under-represented countries at Stanford 2020 -

‘We Code’ ambassador - Advocating for teaching coding in the Caribbean 2020 -

Advisor for Stanford, KIPAC’s Pilot Programme on STEM coding for high-school students 2020 -

Mentor, Brightest Stars Foundation 2017 -

KIPAC, Co-author of Department Code of Conduct 2020

KIPAC, Stanford Graduate Admissions Review Panel 2020

Science Policy: Early-career delegate for Astro2020 Decadel Survey 2018

Professional Service

KIPAC, Stanford Cosmology Seminar organiser 2018 - present

Lorentz Centre, Leiden Bridging Gaps Between Dynamical Probes of Galaxies SOC co-chair, 2020

BCCP Accurate lensing in the era of precision Cosmology SOC co-chair, 2019

>15 nights of telescope observing at CTIO and AAT