ALEX A. LASCELLES

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EDUCATION

Goldsmiths, University of London 2017 - 2018
MSc Music, Mind and Brain

- A unique program combining music psychology with neuroscience, focusing on both the biological and cognitive aspects of musical behaviour.
- Core courses: Foundations of Neuroscience, Cognitive Neuroscience of Music, Statistics and Experimental Design. Audited courses: Machine Learning, Advanced Quantitative Methods.

University of Southampton 2013 - 2017
MPhys Astrophysics with a Year Abroad (first-class honours)

- Achieved highest grades of any Master of Physics degree. Master's year spent conducting research at Harvard University.
- Courses includings: calculus, mechanics, programming, quantum physics, cosmology, statistics, electronics. Audited Harvard courses: Neurobiology of Perception and Decision Making, Sleep and Circadian Rhythms.

The Thomas Hardye School 2011 - 2013

- **A Level**: Physics (A), Biology (A), and Math (A). **GCSE**: 9 A* and 2 A including Math, English, and Sciences.

PROFESSIONAL EXPERIENCE

Goldsmiths, University of London Dec 2017 - Aug 2018
Master's Project *Prof Joydeep Bhattacharya FRSA*

- Designing and conducting an EEG experiment to investigate the neural correlates of a crossmodal correspondence between pitch and visual motion.
- Skills involved include: experimental design and participant handling, EEG script preparation, EEG analysis, and programming in **MATLAB** and **R**.

Harvard-Smithsonian Center for Astrophysics Aug 2016 - May 2017
Master's Project *Dr Cecilia Garraffo*

- Planned and conducted 3-D magnetohydrodynamic **simulations** using cluster computing and visualisation software to investigate orbital evolution in binary star systems (scientific publication expected in 2018).
- Poster presentation at the 229th American Astronomical Society Meeting, the largest annual US astronomy conference.

University of Southampton Supernova Group Jun - Aug 2015 & 2016
Astrophysics Research *Prof. Mark Sullivan*

- **Summer 2015**: Designed a **Python** program which created models to analyse over 16,000 objects and successfully identified candidates for a new class of supernovae.
- **Summer 2016**: Analysed data for over 10,000 objects using **Python** fitting techniques in order to successfully locate a number of superluminous supernovae.

Instituto de Astrofisica de Canarias and Teide Observatory Mar - Apr 2015
Week 1: Space Mission Design Project *Course for Top Performing Students*

- Responsible for the orbital mechanics and science objectives for an intensive collaborative project to design a gamma ray telescope, culminating in a pitch to mission executives from the **European Space Agency**.

Week 2: Observational Astronomy Experience

- Devised observing strategies and collected data for a range of celestial objects on several professional telescopes.
- Authored an **academic paper** and presented a poster to the University of Southampton Astronomy Department.

University of Southampton Jan - May 2016
Computing Projects *Dr Marcus Newton*

1. Created a physical model with **Python** to study the structure of White Dwarfs.
2. Explored planet habitability by simulating thousands of orbits around a binary star system using **Python** and a Runge-Kutta approach to solving differential equations.

OTHER VALUABLE EXPERIENCE

Mathnasium Oct 2018 - Present
Math Tutor

· Math instructor, teaching a variety of concepts from Algebra to Precalculus, to students Grades 5 through to college.

Sofar Sounds Oct 2018 - Present
Sofar Ambassador

· Working as artist liaison and on social media for Sofar Boston, organizing live musical performances in intimate settings.

Brown University Jan 2017
Hack@Brown

· Worked within a team at a hackathon to create an Internet of Things platform that allows hardware devices to be controlled by a simple web interface.
· Programmed a **Raspberry Pi** and built a working prototype to present to companies including Microsoft and Google.

University of Southampton Physics Department Summers of 2015 & 2016
Open Day Demonstrator

· Lead tours of the Physics department for large groups of prospective students and motivated their interest in science.

Oxfam Sep 2011 - Sep 2013
Bookstore Assistant

· Spent 100 days volunteering in a local charity bookstore. Responsible for managing a full range of tasks from handling incoming donations to selling to the public.

AWARDS

Most Outstanding Performance on Any Master of Physics Degree

· Received after achieving an overall degree result of 84.5%.

Best Project by a Year Abroad Finalist

· Received after achieving a master's thesis grade of 90%.

Invitation to Conduct Masters Research at Harvard University

· Received after consistently achieving the highest grades in the year.

Ogden Trust Undergraduate Science Scholarship Recipient

· Awarded a competitive scholarship on the basis of academic merit during secondary school education.

The Duke of Edinburgh Gold Award

· Received an award which required 18 months of volunteering, 12 months developing a skill (jazz piano), 6 months of a physical activity (badminton), a 3-day hiking expedition, and a week-long residential activity.

SKILLS & INTERESTS

Computing Proficient: **Python**, **MATLAB**, cluster computing, MS Office, and both **Windows** and **Linux** OS. Familiar: R, Javascript, and HTML/CSS.

Sports **Captain** of the University Men's Badminton 2nd Team, including 3 years of competitive university matches ⋆ Social Secretary of the **largest university sports society** (Recreational Badminton) ⋆ Ultimate Frisbee ⋆ Climbing.

Music & Art Grade 8 level jazz piano ⋆ **Founder** and **President** of the Goldsmiths Jazz Society (17-18) ⋆ Piano tutoring (3 years) ⋆ University of Southampton Piano Society **Secretary** (14-15) ⋆ Ultra-realistic drawing ⋆ 5-ball juggling.

Languages English (native) ⋆ French (intermediate).