

Guy Leckenby

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Education

University of British Columbia (2019-present):

Doctor of Philosophy (Physics).

Project: Exotic β -decay in the Astrophysical r -process.

Supervisor: Dr Iris Dillmann

GPA: 4.22/4.33 (UBC) WAM: 90.8% (A+)

Australian National University (2014-2017):

Bachelor of Philosophy (Honours)(Science)[†] with First Class Honours.

Major: Physics (Theoretical) Minor: Mathematics

GPA: 6.84/7.0 (ANU) WAM: 86.5%

Coffs Harbour Senior College (2012-2013)

Completed the *Higher School Certificate* with an ATAR of 99.25.

Research Experience

2019- Dr Iris Dillmann Doctoral Project	Investigation of exotic β -decay process, including β -delayed neutron emission and bound-state β -decay. Data analysis of various experiments conducted at GSI Helmholtz Centre for Heavy Ion Research and construction and characterisation of the novel Beaver Tail detector.
2017 Dr Anton Wallner Honours Project	Improving ionisation detection for AMS analysis of ^{53}Mn in the near-Earth Supernova search by characterising a new ionisation detector with enhanced isobar suppression.
2016 Dr Ben Buchler ASC Project	Characterisation of intensity and phase behaviour of optical vortices generated by precision machined spatial phase mirrors.
2016 Dr Christian Wolf ASC Project	Deep field images of Centaurus A (NGC 5128) from the SkyMapper telescope were analysed computationally using ESO-MIDAS.
2015 Prof Martin Asplund ASC Project	Interpreting three dimensional hydrodynamic models of the solar atmosphere with Python.

Teaching Experience

2019-present: Teaching Assistant,] University of British Columbia.

- PHYS157 Physics 1 for Engineers: lead TA for a triple section tutorial of 150 students dealing with introductory thermodynamics and oscillations.

[†]The Bachelor of Philosophy (Science)(Honours) is an elite science degree offered by the ANU that provides unique research opportunities and flexibility. More information can be found at [Bachelor of Philosophy \(Honours\)](#).

- PHYS158 Physics 2 for Engineers: tutorial TA dealing with introductory electromagnetism and circuits.
- PHYS118V Physics 2 (Vantage College): lecture TA, including giving revision lectures, for the international student focused summer version of Physics 2.
- Enhancement and Customization of an Open Physics Textbook for International Students. That is contribute to the construction of an online edX course.

Honours and Awards

- 2019: R HOWARDWEBSTER FOUNDATION FELLOWSHIP. Awarded to outstanding graduate students in any field studying at the University of British Columbia who become Resident Members of Green College.
- 2014 - 2017: TUCKWELL SCHOLARSHIP. I am an alumnus of the Inaugural Tuckwell Scholarship cohort of 2014. The Tuckwell Scholarship is the largest and most prestigious undergraduate scholarship in Australia founded by Graham and Louise Tuckwell and supports students for up to five years. More information can be found [here](#).
- 2015: AUSTRALIAN INSTITUTE OF PHYSICS PRIZE. Academic prize awarded to the student with the highest grade over four 2000 level physics courses.
- 2014/16: CHANCELLORS LETTER OF COMMENDATION. Letter of commendation for outstanding academic results from Professor the Hon Gareth Evans AC QC, Chancellor of ANU.
- 2015/16: BRUCE HALL'S CROSS SECTIONS My residential college Bruce Hall publishes a personal academic journal known as Cross Sections. Copies of Cross Sections can be found [here](#).
- 2014: BRUCE HALL ACADEMIC AWARD. Highest grade for first year semester 1 physical sciences student within Bruce Hall.
- 2013: DUX OF COFFS HARBOUR SENIOR COLLEGE. I was awarded the Dux and Highest ATAR (two separate awards) for my HSC marks at Coffs Harbour Senior College.

Work Experience

- 2018-2019 SNOWSPORTS INSTRUCTOR. For four consecutive winters, I worked as a snowsports instructor in Hakuba, Japan and Perisher, Australia. I have my APSI Alpine Level 2 & Snowboard Level 1. I have extensive experience in teaching all age ranges (from 3 years old to seniors) and skill levels (from beginner to advanced), as well niche techniques like race training and park skiing.
- 2014-2016 CHAMELEON SOFTWARE: SUPPORT OFFICER. Over two summers, I worked for Chameleon Software writing support documentation for their rehabilitation management program Case Manager.

Publications

- M. Martschini, L.K. Fifield, M. Froehlich, G. Leckenby, S. Pavetich, S.G. Tims, B. Tranter, and A. Wallner. New and upgraded ionization chambers for AMS at the Australian National University. *Nuclear Instruments and Methods in Physics Research Section B*, **438:141-147**. 2019.

Skills

- PROGRAMMING LANGUAGES: Mathematica - highly competent. Python, C++, ROOT - competent. MIDAS - familiar.
- FORMATTING: \LaTeX , Microsoft Word - highly competent. HTML - basic knowledge.
- STATISTICS: Bayesian and Frequentist methods for linear regression, least squares estimation, maximum likelihood estimation, kernel density estimation, and more.
- PRESENTATION: Highly skilled orator having competed at state level in public speaking, with extensive experience in academic presentations, formal events, and as master of ceremonies.

Leadership Opportunities

- 2013: STOCKHOLM INTERNATIONAL YOUTH SCIENCE SEMINAR. SIYSS is a prestigious seminar for young researchers centred around the Nobel Prize festivities in Stockholm every year. Attendance includes admission to all the Nobel events including the ceremony, banquet, ball and lectures. Participants also present at the Seminar event itself to Swedish high school students. I was one of only two Australians to go in 2013. More information can be found [here](#).
- 2013/14: NATIONAL YOUTH SCIENCE FORUM. The National Youth Science Forum is a science camp lead by former students to inspire high school students to study science. I attended as a student in 2013 and returned in 2014 as a staff member which was a formative leadership experience as we were put through extensive training. More information can be found [here](#).
- 2017: AINSE WINTER SCHOOL Attended the Australian Institute of Nuclear Science and Engineering (AINSE) Winter School.
- 2016: PRODUCER FOR BRUCE HALL PLAY. I served as the chair for the Bruce Hall Players Subcommittee which involved organising and producing Bruce Hall's production of Louis Nowra's *Cosi*.
- 2015: SPORTS REPRESENTATIVE FOR BRUCE HALL CRC. I served as a sports representative for the Bruce Hall Common Room Committee, the student leadership team for Bruce Hall. In this role I worked in a team to organise all sporting events associated with the hall.
- 2015: ANU IARU GSP. I participated in the ANU's International Alliance of Research Universities' Global Summer Program Mobilising Research which is one of the Vice Chancellor's courses focusing on leadership in academia and research.
- 2015: MEETING GG SIR PETER COSGROVE. I was selected as one of two representatives to meet Sir Peter and Lady Cosgrove when the 2015 Scholars met with the Australian Governor General.
- 2014: MEETING PM TONY ABBOTT. Tuckwell scholars were invited to meet the then Prime Minister of Australia, Tony Abbott, to congratulate them on their achievements.
- 2013: VICE PRESIDENT, CHSC SRC. I was the Vice President (i.e. school captain) for the Student Representative Council at Coffs Harbour Senior College which entailed conducting school assemblies and numerous formal representative positions.

Sporting Achievements

I am a keen Skier, Triathlete, and Ultimate Disc player and as a result love both the individual challenge and team coordination aspects of sport.

- 2018: SNOWSPORTS INSTRUCTOR. I took a gap year to work as a ski instructor in Hakuba, Japan and Perisher, Australia. I topped the APSI Alpine Level 2 exam, gained my Snowboard Level 1 and I will take my Alpine Level 3 exam in March 2019. Throughout this time, I developed my interpersonal skills and gained valuable life experience.
- 2015: PROTECT YOU HEAD CAMPAIGN. As an experienced cyclist, I was assistant coach for the Tour de Bruce component of the Protect Your Head Campaign, a charity ride from Dubbo to Canberra where we raised over \$10,000 for the National Institute of Mental Health Research.
- 2015/17: ISO ULTIMATE DISC CHAMPIONS. I coached the Bruce Hall Ultimate Disc team to victory in the 2015 and 2017 Interhall Sports competition.
- 2014: INWARD BOUND. I competed for Bruce Hall in Division Three of the ultra-marathon adventure race Inward Bound where our team of four ran over 70 km after being dropped in an unknown location at midnight. This event really helped build character and teamwork.
- 2016/17: - UNIVERSITY GAMES. I represented ANU at both Eastern and Australian University games for Ultimate Disc.