

# Associate Professor Nicole F. Bell

## Curriculum Vitae

School of Physics  
The University of Melbourne  
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### **RESEARCH FOCUS**

Particle Physics, Astrophysics and Cosmology (with particular emphasis on dark matter, matter-antimatter asymmetries, and neutrino physics).

### **ACADEMIC QUALIFICATIONS**

2001                      Doctor of Philosophy, Physics, The University of Melbourne  
*Neutrino Oscillations and the Early Universe*

1997                      Bachelor of Science (Honours), The University of Melbourne

### **ACADEMIC APPOINTMENTS**

Jan 2014 – present      Associate Professor and Reader,  
School of Physics, The University of Melbourne

Dec 2012 – present      ARC Future Fellow,  
School of Physics, The University of Melbourne

Sep 2008 – Dec 2013    Senior Lecturer, Level C,  
School of Physics, The University of Melbourne

Jan 2007 – Aug 2008    Lecturer, Level B,  
School of Physics, The University of Melbourne

Sep 2004 – Oct 2006    Sherman Fairchild Postdoctoral Scholar  
Division of Physics, Mathematics and Astronomy  
California Institute of Technology, USA

Sep 2001 – Sep 2004    Research Associate  
Fermilab Theoretical Astrophysics Group  
Fermi National Accelerator Laboratory, USA

Sep 2002 – Sep 2004    Associate Fellow, Center for Cosmological Physics, University of Chicago  
Sep 2001 – Sep 2004    Visiting Scholar, Dept. Astronomy and Astrophysics, University of Chicago

Mar 2001 – Sep 2001    Australian Postdoctoral Fellow (Australian Research Council)  
School of Physics, The University of Melbourne

### **Career interruptions**

*Parental leave due to birth of children in Jul 2006, Sep 2009, Nov 2011.  
Part-time work 2012-2017.*

### **PROFESSIONAL AFFILIATIONS**

2002 – present            Member of American Physical Society (elected Fellow 2016)

2002 – present            Member of Australian Institute of Physics

**PRIZES, SCHOLARSHIPS, AWARDS**

2016	Fellow of the American Physical Society
2012 – 2018	Future Fellowship, <i>Australian Research Council, competitive research grant</i>
2011	Dean's Award for Excellence in Research, <i>Faculty of Science, Univ. of Melbourne</i>
2006	Michelson Postdoctoral Prize Lectureship, <i>Case Western Reserve University</i>
2004 – 2006	Sherman Fairchild Postdoctoral Scholar, <i>Caltech Prize Fellowship in Theoretical Physics</i>
2004	Alvin Tollestrup Award for Postdoctoral Research, <i>Fermi National Accelerator Lab.</i>
2002	Young Researchers Competition in Honor of John Archibald Wheeler -- Second Prize, <i>Science &amp; Ultimate Reality Symposium, Princeton</i>
2002	Chancellor's Prize, <i>Thesis award, The University of Melbourne</i>
2001	Bragg Gold Medal for Excellence in Physics, <i>Australian Institute of Physics, best physics PhD thesis at an Australian university</i>
2001	ARC Australian Postdoctoral Fellowship, <i>competitive research grant</i>
1999	Jean Gilmore/Thenie Baddams grant, <i>travel grant, Aust. Federation of University Women</i>
1999	Melbourne Abroad Scholarship, <i>Travel scholarship, The University of Melbourne</i>
1998	Helen M. Schutt Scholarship, <i>Highest ranked female student beginning a science PhD at the University of Melbourne</i>
1998 – 2000	Australian Postgraduate Award, <i>PhD scholarship</i>
1997	John Tyndall Scholarship, <i>The University of Melbourne</i>
1997	Professor Kernot Scholarship in Physics, <i>The University of Melbourne</i>
1996	Bryan Scholarship in Natural Science, <i>The University of Melbourne</i>
1994 – 1997	Dean's Honours List, <i>The University of Melbourne</i>

**FUNDED GRANTS**

2017 – 2019	Australian Research Council Discovery Project, DP170104382 Dolan, <b>Bell</b> , Volkas, <i>The origin of (dark) matter</i> , \$237,000.
2016	Faculty of Science Research Grant Support Scheme, Volkas, <b>Bell</b> , Dolan, <i>The origin of (dark) matter</i> , \$33,000.
2012 – 2018	Future Fellowship, Australian Research Council, FT120100110, <b>Bell</b> , <i>Frontiers in Particle and Astroparticle Physics</i> , \$556,928.
2011 – 2018	ARC Centre of Excellence for Particle Physics at the Tera-Scale, CE1100010004, Taylor, Gherghetta, Thomas, Varvell, Yabsley, Volkas, Balazs, <b>Bell</b> , Barberio, Seviar, Williams, Young, Limosani. \$25,200,000 (ARC).
2010 – 2012	Australian Research Council Discovery Project, DP1092527, <b>Bell</b> , Beacom, <i>Discovering New Particle Physics with Dark Matter and Astrophysical Neutrinos</i> , \$180,000
2009 – 2011	Australian Research Council Discovery Project, DP0988343, Volkas, <b>Bell</b> , Gherghetta, McKellar, Joshi, <i>The Standard Model of Particle Physics and Beyond in the era of the Large Hadron Collider</i> , \$620,000. (3rd year relinquished due to Center of Excellence.)
2008	Early Career Researcher grant, <b>Bell</b> , <i>Neutrino Decay in Cosmology and Astrophysics</i> , \$20,000.
2007	Melbourne Research Grant Scheme, <b>Bell</b> , <i>Intersections of Particle Physics with Cosmology and Astrophysics</i> , \$12,964.
2001	Australian Research Council Australian Postdoctoral Fellowship, F00102922 <b>Bell</b> , <i>Neutrino Phenomenology and Particle Physics beyond the Standard Model</i>

**ACADEMIC SERVICE – ADVISORY**

2015 – present	Editorial Board, Scientific Reports (Nature Publishing Group)
2007 – present	Assessor for ARC (Australian Research Council) grant proposals
2016	Referee for Millennium Science Initiative grants, Chile
2007 – 2008	Reviewer for NSF (National Science Foundation, USA) grant proposals
2013 – present	Referee, Astroparticle Physics
2009 – present	Referee, Astronomy & Astrophysics
2008 – present	Referee, Journal of Cosmology and Astroparticle Physics
2007 – present	Referee, Journal of Physics G
2006	Referee, Reviews of Modern Physics
2004 – present	Referee, Journal of High Energy Physics
2003 – present	Referee, Physical Review D
2002 – present	Referee, Physical Review Letters
2001 – present	Referee, Physics Letters B

**ACADEMIC SERVICE - CONFERENCE/WORKSHOP ORGANISATION**

2017	Chair of the Nuclear, Particle and Plasma Physics stream at the annual meeting of the Australian Institute of Physics, Dec 2017
2017	Convener of <i>Particle Physics</i> track, <i>TEVPA 2017</i> , TeV Particle Astrophysics 2017 conference, Columbus, Ohio, USA, August 2017.
2017	International Advisory Committee, <i>WIN2017</i> , 26th International Workshop on Weak Interactions and Neutrinos, Irvine California, June 2017
2017	Organizing committee, CAASTRO-CoEPP workshop, Melbourne, Jan 2017
2016	International Advisory Committee, CosPA 2016 conference, Sydney, Nov 2016,
2016	International Advisory Committee, International Neutrino Summer School (INSS), Quy-Nhon, Vietnam, July 2016
2016	Local organizing committee, SUSY 2016 conference, Melbourne, July 2016
2016	Chair, pre-SUSY summer school, Melbourne, June 2016
2015	Organizing committee, CoEPP Summer School, Monash, Feb 2015
2014	International Advisory Committee and Local Organizing Committee, <i>10th Asia-Pacific Symposium on Cosmology and Particle Astrophysics (CosPA 2014)</i> , Auckland, Dec 2014
2012	Member of organising committee and proceedings editorial committee, <i>36th International Conference on High Energy Physics (ICHEP 2012)</i> Melbourne, July 2012.
2012	Convener of the “Cosmic Frontier” parallel sessions, <i>11th Conference on the Intersections of Particle and Nuclear Physics (CIPANP2012)</i> , Florida, USA, May 2012
2010	Member of program committee, <i>Australian Institute of Physics Congress</i> , Dec 2010.
2009	Co-organizer of the <i>International Symposium on Cosmology and Particle Astrophysics (CosPA)</i> , Melbourne, 18 – 20 Nov 2009
2009	Member of the local organising committee, <i>5th International Workshop on the Dark Side of the Universe (DSU09)</i> , Melbourne, 1-5 June 2009
2008	Co-convener of the “Particle Astrophysics” session at the 2008 <i>TeV Particle Astrophysics conference</i> , Beijing, China, 24 - 28 Sep 2008
2008	Member of organising committee, <i>Heavy Quarks and Leptons</i> , Melb, 5 - 9 June 2008
2008	Co chair of <i>Melbourne Neutrino Theory Workshop</i> , Melbourne, 2 - 4 June 2008
2006	Co-convener of “Neutrino Physics” parallel session, Joint Meeting of the US Division of Particles and Fields (DPF), the Japan Physical Society (JPS), and the Particle Physicists of the Pacific Region, Honolulu, Hawaii, USA Oct 2006.
2002	Co-chair of <i>Neutrino News from the Lab and the Cosmos</i> , Fermilab, USA Oct 2002

**ACADEMIC SERVICE – COMMITTEES**

2017 – present	Chair, Research & Research Training committee, School of Physics
2017 – present	Member, Executive Committee, School of Physics
2017 – present	Member, Research and Industry committee, Faculty of Science
2017 – present	Member, Equity and Diversity committee, School of Physics
2017 – present	Scholarship and Awards Coordinator, Selection Procedures Committee
2011 – present	Member, Selection Procedures Committee of Academic Board, Univ. of Melbourne
2015 – 2018	Member, Faculty of Science Level C Promotion Panel, University of Melbourne
2010 – present	General Assembly member, Asia-Pacific Organization for Cosmology and Particle Astrophysics (APCosPA)
2008 – present	Treasurer/Secretary, Australian Institute for High Energy Physics (AUSHEP)
2017	SPC Selection Review of Faculty of Engineering
2017	Member, workforce planning group, School of Physics
2017	Selection panel, Haimson Lectureship in Physics, University of Melbourne
2017	Selection panel, postdoc positions in particle physics, Monash University
2017	Selection panel, postdoc positions at ARC Centre of Excellence for Gravitational Waves
2016 – 2017	Reviewer, John Monash Scholarships
2016	Selection panel, lectureship in experimental particle physics, Univ. of Melb
2016	Member, SPC working group on Mathematics Pathways
2016	PhD thesis examiner, University of Adelaide
2015 – 2016	Member, Faculty of Science Diversity and Inclusion Committee
2015	PhD thesis examiner, SISSA, International School for Advanced Study, Trieste, Italy
2014	Member of selection panel, lectureship in theoretical particle physics, Univ. of Melb
2013 – 2015	Member (chair 2015) Bragg Gold Medal selection committee (Aust. Institute of Physics)
2012	Member of selection panel, lecturship in particle physics, Monash University
2011	Member of Melbourne Graduate School of Science Academic Program Committee
2010 – 2012	Equal Opportunity Observer on academic promotion panels, Univ. of Melbourne
2010	PhD thesis examiner, University of Canterbury, New Zealand
2008 – 2009	Member of the Science Faculty selection panel for the Chancellor's Prize
2008	Member of the Physics Academic Programs Committee
2007 – 2011	Coordinator of Physics Masters, Honours and Postgraduate Diploma programs
2007 – 2011	Member of Physics Research & Research Training Committee
2006 – 2011	Member of selection panels for research associates in Theoretical Particle Physics
2006	Member of selection panel for Lectureship in Theoretical Particle Physics
2005 – 2006	Journal club organiser, Kellogg Lab, Caltech
2002 – 2003	Seminar organiser, Fermilab Theoretical Astrophysics

**POSTDOCTORAL FELLOWS SUPERVISED**

2015 – 2018	Giorgio Busoni (→ Postdoc at Max Planck Institute Heidelberg, Germany)
2015 – 2018	Tyler Corbett (→ Postdoc at Niels Bohr Institute, Copenhagen, Denmark )
2012 – 2017	Yi Cai (→ Faculty at Sun Yat-sen University, China)
2009 – 2012	Kalliopi Petraki (→ Postdoc at NIKHEF, Amsterdam → Faculty at LPTHE, Paris)

Also worked with CoEPP postdocs Anibal Medina, Zhao-Huan Yu, Sandra Robles.

**RESEARCH STUDENTS SUPERVISED****PhD students**

2017 – present	Isaac Sanderson (principal supervisor, 100%)
2016 – present	Leon Friedrich (co-supervisor, 30%)
2015	Alexander Miller (co-supervisor, 50%) (→ PhD at Max Planck Institute, Munich)
2013 – 2017	Rebecca Leane (principal supervisor, 100%) (→ Postdoc at MIT, USA)
2012 – 2016	Amelia Brennan (co-supervisor, 20%)
2011 – 2015	Iason Baldes (principal supervisor, 50%) (→ Postdoc at DESY, Germany)
2009 – 2013	Ahmad Galea (principal supervisor, 100%) (→ Postdoc at University of Oslo, Norway)
2007 – 2011	Thomas Jacques (principal supervisor, 100%) (→ Postdoc at Arizona State University, USA → postdoc at University of Geneva, Switzerland → Postdoc at SISSA, Italy)
2007 – 2008	Sandy Law (co-supervisor; 30%) (→ Postdoc at NCKU University, Taiwan)

**MSc students**

2018 – present	Michael Virgato (principal supervisor, 100%)
2017 – present	Clarisse Thomas (principal supervisor, 100%)
2017 – present	Michael Nee (principal supervisor 100%)
2015 – present	Benjamin Graham (co-supervisor, 50%)
2015 – 2016	Isaac Sanderson (principal supervisor, 100%)
2013 – 2015	Alexander Miller (principal supervisor, 50%)
2010 – 2011	Amelia Brennan (principal supervisor, 100%)
2009 – 2010	Iason Baldes (principal supervisor, 50%)

**Honours students**

2008	Ahmad Galea (principal supervisor, 100%)
2007	Alexander Malone (principal supervisor, 100%)

**TEACHING – COURSES**

2011 – 2018	PHYC90011 MSc Particle Physics
2009 – 2011	PHYC90007/640-610 MSc Quantum Mechanics
2009 – 2011	PHYC20010/640-214 Quantum Physics & Special Relativity
2007 – 2008	640-223 Quantum Mechanics & Thermal Physics (Advanced)
2008	Quantum Mechanics B (Honours course)
2008, 2010	640-112 Physics 2 (Advanced)
2007	640-122 Physics 2 (Advanced)
2007 – 2011	Masters, Honours and Postgraduate Diploma coordinator

## INVITED CONFERENCE TALKS

1. *Dark Matter*  
Plenary talk, CosPA2017, International Symposium on Cosmology & Particle Astrophysics, Kyoto Japan, Dec 2017.
2. *Matter-Antimatter Asymmetry of the Universe*  
A Fractured Universe? Fundamental Physics, Symmetry and Life, University of Sydney, 30 Nov 2017
3. *Unitarity and Dark Matter: Implications for collider searches and indirect detection*  
Plenary talk, 12th International Workshop on the Dark Side of the Universe, Bergen, Norway, Jul 2016.
4. *The Particle Physics of Dark Matter and Beyond*  
Plenary talk, 8th Australasian Conference on General Relativity and Gravitation, Monash University, 3 Dec 2015.
5. *Particle – Antiparticle Asymmetries from Scattering*  
Plenary talk, PACIFIC 2015 (Particle Astrophysics and Cosmology, Including Fundamental Interactions), French Polynesia, 17 Sep 2015.
6. *Dark Matter in the Universe*  
Plenary talk, conference on Physics at the LHC and Beyond, Quy-Nhon, Vietnam, August 2014
7. *Dark Matter: Theory Overview*  
Plenary talk, CosPA2013, 10th Int. Symposium on Cosmology & Particle Astrophys., Hawaii, 12 Nov 2013
8. *Dark Matter: Indirect Detection and LHC Searches*  
Plenary talk, LHC, Particle Physics and the Cosmos conference, Auckland, New Zealand, 13<sup>th</sup> July 2012.
9. *Indirect Detection of Dark Matter – Recent Developments*  
Plenary talk, 2011 Phenomenology Symposium, Univ. of Wisconsin at Madison, USA, 10th May 2011.
10. *Indirect Detection of Particle Dark Matter*  
Parallel talk, Australian Inst. Physics Congress, Nuclear and Particle Physics stream, Melbourne, Dec 2010.
11. *Dark Matter Annihilation with Electroweak Bremsstrahlung*  
Parallel talk, CosPA/COSMO 2010, Tokyo, Japan, September 2010.
12. *Dark Matter Annihilation to Electrons, Neutrinos and Gamma Rays*  
Parallel talk, CIPANP 2009, 10<sup>th</sup> Conference on the Intersections of Particle and Nuclear Physics, San Diego, California, USA, 28th May 2009.
13. *Dark Matter Annihilation*  
Plenary talk, PPC09, 3<sup>rd</sup> International Workshop in the Interconnection between Particle Physics and Cosmology, University of Oklahoma, USA, 20th May 2009.
14. *Dark Matter Annihilation to Electrons, Neutrinos and Gamma Rays*  
Plenary talk, Dark 2009, Sixth International Heidelberg Conference on Dark Matter in Astro and Particle Physics, Christchurch, New Zealand, 20th January 2009.
15. *Constraining Dark Matter Annihilation with Neutrinos and Gamma Rays*  
Parallel talk, CosPA 2008, International Symposium on Cosmology and Particle Astrophysics, Asia Pacific Center for Theoretical Physics, Korea, 30th October 2008.
16. *Probing New Physics with Astrophysical Neutrinos*  
Plenary talk, Neutrino 2008, XXIII International Conference on Neutrino Physics and Astrophysics, Christchurch, New Zealand, 30th May, 2008.
17. *Dark Matter Annihilation in the Late Universe*  
Parallel talk, CosPA2007, International Symposium on Cosmology and Particle Astrophysics, National Taiwan University, 15th November 2007.
18. *Neutrinos in Cosmology*  
Plenary talk, Gordon Research Conference on Nuclear Physics, Newport RI, USA, 16th July 2007.
19. *Neutrino Astrophysics Panel Discussion*  
Panel discussion, Bethe Centennial Symposium on Astrophysics, Cornell University, 2nd June 2006.
20. *Highlights of Neutrinos in Cosmology*  
Plenary talk, April Meeting of the American Physical Society, Dallas, Texas, 24th April 2006.

21. *Magnetic Moments of Dirac Neutrinos*  
Parallel talk, PANIC 05, Particles and Nuclei International Conference, Santa Fe, NM, 27th Oct 2005.
22. *Cosmological Signatures of Neutrino Interactions*  
Plenary talk, Santa Fe Summer Workshop, Implications of Neutrino Flavor Oscillations, 12 Jul 2005
23. *Neutrino Signatures in Cosmology*  
Plenary talk, Workshop on Exploring the Physics Frontier at the Deep Underground Laboratories, Institute for Nuclear Theory, Seattle, 24th June 2005.
24. *Neutrino Signatures in Cosmology*  
Parallel talk, Frontiers in Contemporary Physics III, Vanderbilt University, 26th May 2005.
25. *Galactic Positrons and MeV Dark Matter*  
Parallel talk, Frontiers in Contemporary Physics III, Vanderbilt University, 25th May 2005.
26. *Relic Neutrino Abundance and Cosmological Neutrino Mass Limits*  
Plenary talk, Fermilab Annual Users' Meeting, 2nd June 2004.
27. *Neutrino Astrophysics: Theoretical Overview*  
Parallel talk, WIN 03, 19th International Workshop on Weak Interactions and Neutrinos, Lake Geneva, Wisconsin, 9th October 2003.
28. *Neutrino Mixing and Cosmology*  
Parallel talk, TAUP 2003, Eighth International Workshop on Topics in Astroparticle and Underground Physics, University of Washington, Seattle, 5th September 2003.
29. *Cosmological Connections of Neutrino Physics*  
Plenary talk, Workshop On Trends In Neutrino Physics, Argonne National Laboratory, 13th May 2003.
30. *Neutrino Mixing and Big Bang Nucleosynthesis*  
Parallel talk, American Physical Society Meeting, Philadelphia, 7th April 2003.
31. *The Universe's Lepton Number*  
Plenary talk, Neutrinos: Data, Cosmos, and Planck Scale conference, Kavli Institute for Theoretical Physics (KITP) UC Santa Barbara, 7th March 2003.
32. *Neutrinos and Cosmology*  
"Starry Messages" lecture series, Fermilab, 24th October 2002.
33. *Cosmological Lepton Number Constraints from Neutrino Flavour Transformation*  
Parallel talk, COSMO-02, Int. Workshop on Particle Physics and the Early Universe, Chicago, 19 Sep 2002.
34. *Neutrino Oscillations and the Early Universe -- the Quantum Mechanics of Open Systems*  
Bragg Lecture, Aust. Institute Physics Congress, Sydney, Australia, 10th July 2002.
35. *Coherence, Decoherence and Oscillating Neutrinos -- from Quantum Zeno to Getting in Sync*  
Science & Ultimate Reality Symposium -- Young Researchers Competition in Honor of John Archibald Wheeler, Princeton, 17th March 2002.
36. *Relic Neutrino Asymmetries and Big Bang Nucleosynthesis in a 4 Neutrino Model*  
Parallel talk, NuFact'01, Third International Workshop on Neutrino Factories based on Muon Storage Rings, Tsukuba, Japan, 29th May 2001.

#### **INVITED SEMINARS & COLLOQUIA, AND CONTRIBUTED CONFERENCE TALKS**

37. *Baryogenesis at Low Scale*  
Australian Institute of Physics Summer Meeting, UNSW Sydney, 4 Dec 2017
38. *Direct Detection of Dark Matter via a Two-Higgs-Doublet Portal*  
CAASTRO-CoEPP joint workshop, Barossa Valley, 21 Nov 2017
39. *Dark Forces in the Sky: Signals from Z' and the Dark Higgs*  
TeVPA 2017, TeV Particle Astrophysics 2017 conference, Columbus Ohio, 7 Aug 2017
40. *Enhancing Dark Matter Annihilation rates with Dark Bremsstrahlung*  
TeVPA 2017, TeV Particle Astrophysics 2017 conference, Columbus Ohio, 7 Aug 2017
41. *Self-consistent Dark Matter Simplified Models with an s-channel Scalar Mediator*  
LHC Dark Matter Working group, CERN Geneva (remotely), 15 Dec 2016
42. *Dark Forces in the Sky – Signals from Z' and the Dark Higgs*

- CosPA2016, 13th Int. Symposium on Cosmology & Particle Astrophysics, University of Sydney, Nov 2016
43. *Particle – Antiparticle Asymmetries from Scattering*  
CoEPP annual workshop, Torquay, VIC, 19 Feb 2016
  44. *Mono-W and Gauge Invariance*  
LHC Dark Matter Working Group meeting, CERN Geneva (remotely), 10 Dec 2015
  45. *The Particle Physics of Dark Matter and Beyond*  
School of Physics Colloquium, The University of Sydney, 19 Oct 2015
  46. *Dark Matter at the LHC: the Importance of Gauge Invariance*  
ATLAS Astroparticle Forum, CERN Geneva (remotely), 7 Jul 2015
  47. *Dark Matter at the LHC: the Importance of Gauge Invariance*  
Gordan Research Conference – Prospects of Particle Physics at the 13 TeV LHC, Hong Kong, 10 Jun 2015
  48. *Dark Matter*  
Lecture at CoEPP Summer School, Monash, 16 Feb 2015.
  49. *Collider Constraints on Dark Matter*  
CoEPP and CAASTRO joint workshop on Dark Matter, Stawell, Victoria, 29 Sep 2014.
  50. *Dark Matter and Particle Physics*  
CoEPP annual workshop, Cairns, QLD, 9 Jul 2013.
  51. *Neutrino physics and astrophysics*  
CoEPP and CAASTRO joint workshop, The University of Melbourne, 28 Feb 2013.
  52. *Indirect detection of dark matter - electroweak bremsstrahlung and other stories*  
University of California at Los Angeles, USA, joint theory-experiment seminar, 18th May 2011.
  53. *Indirect detection of dark matter - electroweak bremsstrahlung and other stories*  
Fermi National Accelerator Laboratory, USA, Astrophysics seminar, 16th May 2011.
  54. *Indirect detection of dark matter - electroweak bremsstrahlung and other stories*  
The Ohio State University, USA, Particle Astrophysics Seminar, 13th May 2011.
  55. *Indirect Detection of Dark Matter*  
University of Queensland, Australia, Physics Colloquium, 19th Nov 2010.
  56. *Indirect Detection of Dark Matter*  
University of Canterbury, Christchurch, New Zealand, Physics Seminar, 2nd Nov 2010.
  57. *Indirect Detection of Dark Matter*  
Monash University, Australia, Centre for Stellar and Planetary Astrophysics Colloquium, 26th Oct 2010.
  58. *Indirect Dark Matter Detection – Robust Bounds on Annihilation to Electrons, Neutrinos & Gamma Rays*  
DSU09, 5th International Workshop on the Dark Side of the Universe, Melbourne, 3rd June 2009.
  59. *Neutrino Magnetic Moments and Electromagnetic Leptogenesis*  
CIPANP 2009, 10<sup>th</sup> Conference on the Intersections of Particle and Nuclear Physics, San Diego, California, USA, 27th May 2009.
  60. *Dark Matter Annihilation to Electrons, Neutrinos and Gamma Rays*  
The Ohio State University, USA, Center for Cosmology and Astroparticle Physics Seminar, 26th May 2009.
  61. *Neutrino Magnetic Moments and Electromagnetic Leptogenesis*  
Australian Institute of Physics 18th National Congress, Adelaide, 2 Dec 2008.
  62. *Dark Matter Annihilation in the Late Universe*  
TeVPA 2008, TeV Particle Astrophysics IV, Beijing, China, 24 Sep 2008.
  63. *Neutrino, Dark Matter, and Beyond*  
School of Physics Colloquium, The University of Sydney, 18th Aug 2008.
  64. *Annihilating Dark Matter*  
Dark 2007, Sixth International Heidelberg Conference on Dark Matter in Astro and Particle Physics, Sydney, 27th Oct 2007.
  65. *Neutrinos in Cosmology*  
School of Physics Colloquium, The University of Melbourne, 9th May 2007.
  66. *A General Bound on the Dark Matter Annihilation Cross Section*  
XXIII Texas Symposium on Relativistic Astrophysics, Melbourne, 12 Dec 2006
  67. *How Magnetic is the Neutrino?*  
Festschrift in Honour of Bruce McKellar and Girish Joshi, The University of Melbourne, 30 Dec 2006.
  68. *Neutrino Magnetic Moments and Galactic Positrons & Annihilating Dark Matter*  
Michelson Postdoctoral Prize lecture (seminar), Case Western Reserve University, 5 May 2006.
  69. *Neutrino Physics and Astrophysics: What we have learnt & what we would like to discover*  
Michelson Postdoctoral Prize lecture (colloquium), Case Western Reserve University, 3 May 2006.
  70. *Cosmological Neutrinos: Relic Neutrino Abundance and Neutrino Mass Constraints*



- Michelson Postdoctoral Prize lecture (seminar), Case Western Reserve University, 2 May 2006.
71. *Astrophysical Neutrinos: Revealing Neutrino Properties at the Highest Energies*  
Michelson Postdoctoral Prize lecture (seminar), Case Western Reserve University, 1 May 2006.
  72. *Cosmic Neutrinos -- from the Highest Energies to the Lowest*  
Physics Colloquium, California State University, Fresno, 4th November 2005.
  73. *Topics in Particle Physics and Cosmology*  
School of Physics Colloquium, The University of Melbourne, 8th April 2005.
  74. *Neutrinoless Universe and MeV Dark Matter & Galactic Positrons*  
University of California at San Diego, Astrophysics and Space Sciences Seminar, 2nd Nov 2004.
  75. *Galactic Positrons and MeV Dark Matter*  
TASC 04, 4th Theoretical Astrophysics in Southern California Meeting, UC Irvine, 15th Oct 2004.
  76. *Cosmic Neutrinos -- from the Highest Energies to the Lowest*  
University of New Mexico, Nuclear, Particle & Astroparticle Physics Seminar, 7th September 2004.
  77. *Cosmic Neutrinos -- from the Highest Energies to the Lowest*  
Fermilab, Joint Experimental -- Theoretical Seminar, 20th August 2004.
  78. *Cosmological Neutrino Mass Limits --- The Case of the Disappearing Relic Neutrinos*  
PHENO 2004 Symposium, University of Wisconsin, Madison, 26th April 2004.
  79. *Revealing Neutrino Properties via High Energy Neutrino Astrophysics*  
University of California, Irvine, 16th March 2004.
  80. *Revealing Neutrino Properties via High Energy Neutrino Astrophysics*  
Caltech, Kellogg Seminar, 12th March 2004.
  81. *Revealing Neutrino Properties via High Energy Neutrino Astrophysics*  
University of Wisconsin, Madison, Cosmology and Astrophysics Seminar, 5th February 2004
  82. *High Energy Astrophysical Neutrinos: Revealing Neutrino Properties with Flavour Ratio Measurements*  
Los Alamos National Laboratory, T-8 seminar, 15th January 2004.
  83. *High Energy Astrophysical Neutrinos: Revealing Neutrino Properties with Flavour Ratio Measurements*  
Institute for Nuclear Theory, University of Washington, Seattle, 12th January 2004.
  84. *High Energy Astrophysical Neutrinos: Revealing Neutrino Properties with Flavour Ratio Measurements*  
School of Natural Sciences, Institute for Advanced Study, Princeton, 19th December 2003.
  85. *The Universe's Lepton Number*  
Argonne National Lab, Theory seminar - Physics Division, 13th March 2003.
  86. *Neutrino Mixing and Big Bang Nucleosynthesis*  
Indiana University, High Energy Physics and Astrophysics Seminar, 4th November 2002.
  87. *Do Neutrinos Decay?*  
North Carolina State University, TNT seminar, 10th September 2002.
  88. *Neutrino Mixing in the Early Universe*  
Workshop on Neutrino News from the Lab and the Cosmos, Fermilab, 19th October 2002.
  89. *Do Solar Neutrinos Decay?*  
University of Melbourne, School of Physics, Theory Seminar, 23rd July 2002.
  90. *Do Neutrinos Decay?*  
PHENO 2002 Symposium, University of Wisconsin, Madison, 22nd April 2002.
  91. *Do Solar Neutrinos Decay?*  
University of Delaware, Particle Theory and Astrophysics seminar, 18th April 2002.
  92. *Do Solar Neutrinos Decay?*  
Institute for Nuclear Theory, University of Washington, Seattle. Neutrino Masses & Mixing Mini Workshop (Nucleosynthesis Program), 11th April 2002.
  93. *Relic Neutrino Asymmetries and Big Bang Nucleosynthesis*  
Ohio State University, Department of Physics, HEP/Astro Seminar, 6th March 2002.
  94. *Relic Neutrino Asymmetries and Big Bang Nucleosynthesis*  
Purdue University, Department of Physics, High Energy Theory Seminar, 19th February 2002.
  95. *Neutrinos in the Early Universe*  
"Neutrinos for fun and profit" lecture - Fermilab, 15th November 2001.
  96. *Coherence and Decoherence - from Quantum Zeno to Getting in Sync*  
Enrico Fermi Institute Interdisciplinary Theory Seminar, Chicago, 2nd November 2001.
  97. *Relic Neutrino Asymmetries and Big Bang Nucleosynthesis*  
Fermilab, Theoretical Astrophysics Seminar, 22nd October 2001.
  98. *Synchronisation.*  
University of Melbourne, School of Physics, Theory Seminar, November 2000.

99. *Relic Neutrino Asymmetries*

Les Houches Summer School on "The Primordial Universe", France, July 1999.

**PUBLICATION LIST****Citation Statistics:**

h-index = 30. Average of over 60 citations per refereed journal article. (Google scholar, Feb 2018)

**Submitted journal articles**

1. Bell, N.F., Busoni, G. & Sanderson, I.W. Loop Effects in Direct Detection, arXiv:1803.01574 (20 pages) (2018).  
- citations

**Refereed journal articles**

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