



Morgan O. Wascko

University of Oxford
Department of Physics and Pembroke College
Oxford, OX1 3RH, UK
UKRI STFC Particle Physics Department
Harwell Campus Didcot, OX11 0QX, UK
morgan.wascko@physics.ox.ac.uk
<https://www.physics.ox.ac.uk/our-people/wascko>
<https://orcid.org/0000-0002-8348-4447>

Professional Interests:

I describe my neutrino physics research in [my Imperial inaugural lecture](#) at Imperial College. My particular interests are:

- Understanding the level & origin of the matter-antimatter asymmetry in the universe;
- Accelerator-based experiments that probe neutrino mass and flavour oscillations, searches for leptonic CP violation, and neutrino-nucleus scattering;
- Technology development for advanced neutrino detectors and novel data analysis.

I am working to improve the diversity of physics. I served on the Oxford Physics Department's Athena Swan Team, Imperial Physics Department's [Juno Transparency and Opportunity Committee](#), as well as the [DUNE Code of Conduct](#) Committee.

Education:

2001: Ph.D. (Physics) [University of California, Riverside](#); "Study of the Shadow of the Moon in Very High Energy Cosmic Rays with the Milagrito Water Cherenkov Detector"
1996: M.S. (Physics) [University of California, Riverside](#)
1993: B.A. (Physics) [University of Chicago](#)

Current Positions:

- Rokos-Clarendon Professor of Neutrino Physics, University of Oxford, UK.
- Rokos Tutor and Fellow in Physics, Pembroke College, Oxford.

Awards:

2016: [Breakthrough Prize for Fundamental Physics](#) (Laureate, T2K member & Co-Spokesperson).
2007: [DOE P2 Star Award](#) (SciBooNE, Fermilab).
1998: [American Physical Society Prize, APS Four Corners Sectional Meeting](#).
1989: Elda Washer Scholarship (Oregon, USA).

Employment History:

2023–present: Rokos-Clarendon Professor of Neutrino Physics, University of Oxford, UK.
2019–2023: Professor of Physics, Imperial College London, UK.
2016–2019: Reader in High Energy Physics, Imperial College London, UK.
2016: Long Term Invited Fellow, High Energy Accelerator Research Lab (KEK), Japan.
2014–2016: Senior Lecturer in High Energy Physics, Imperial College London, UK.
2011–2014: Lecturer in Physics, Imperial College London, UK.
2008–2013: STFC Advanced Fellow, Imperial College London, UK.
2006–2008: Fixed Term Research Lecturer, Imperial College London, UK.
2001–2006: Postdoctoral Research Associate, Louisiana State University, USA.
1996–2001: Graduate research assistant, University of California, Riverside, USA.
1990–1993: Undergraduate research technician, University of Chicago, USA.

External Funding:

at OXFORD:

2025: STFC (Consolidated Grant, co-I).

2025: STFC (DUNE DAQ, Oxford PI).

at IMPERIAL:

2022: STFC (Consolidated Grant, co-I).

2020: ERC AIDAInnova gas TPC R&D.

2019: STFC (DUNE-UK, UK PI).

2017: STFC (Special Grant, PI)

2015: STFC (Project R&D (HPgTPC), PI).

2015: STFC (Special Grant, PI)

2015: STFC (Consolidated Grant, co-I).

2014: STFC (Hyper-K, Imperial PI).

2012: STFC (Consolidated Grant, co-I).

2010: Royal Society (Travel Grant, PI).

2009: STFC (Consolidated Grant, co-I).

2008: STFC Advanced Fellowship (PI).

2007: Daiwa Foundation (Small Grant, PI).

2006: Department of Energy, USA (FNAL:

SciBooNE construction, co-I

Research interests:

Neutrino Oscillation Physics

- Measurements of $\nu_\mu \rightarrow \nu_e$ and $\bar{\nu}_\mu \rightarrow \bar{\nu}_e$ neutrino oscillation and search for CP violation with T2K and DUNE. World-leading ν_μ and $\bar{\nu}_\mu$ disappearance searches in ~ 1 eV² region (sterile neutrino searches) with SciBooNE and MiniBooNE.
- Global oscillation analysis techniques; effects of neutrino-nucleus interactions on neutrino oscillation measurements, optimisation of neutrino detection technology for neutrino oscillation measurements.

Neutrino Detector R&D, Design, Construction, Calibration

- Development of a new high-pressure gas time-projection-chamber and electromagnetic calorimeter for DUNE's Phase 2 near detector (ND-GAr).
- Data acquisition development for DUNE (FD and ND).
- Data acquisition and calibration for T2K ND280.
- Muon range detector design (SciBooNE).
- Cosmic muon and laser calibration systems for Cherenkov detector (MiniBooNE).

Neutrino-Nucleus Interaction Physics

- Measurements of ν and $\bar{\nu}$ interaction cross sections on various target nuclei with T2K, MINERvA, DUNE, SciBooNE, MiniBooNE.
- Development of novel data analysis techniques, especially model-independent measurements.

Search for Antimatter in Cosmic Rays Using the Shadow of the Moon

- Analysis of the moon and sun shadows in cosmic rays with Milagro. First model-independent energy calibration of air showers using the geomagnetic field as a spectrometer. Search for antimatter in TeV cosmic rays.

Leadership positions held

- **DUNE: PI of DUNE-UK Collaboration [2021–2023];**
Code of Conduct Committee Chair [2019–2023].
- **T2K: International Co-Spokesperson of T2K Collaboration [2015–2019];**
Executive Committee [2019–2021]; Neutrino Interactions Working Group (NIWG) Convener [2009–2014]; Near Detector Convener (ND280 G4) [2010–2014]; Publication Board Chair [2012–2014].
- **SciBooNE: Founder & Co-Spokesperson of SciBooNE Collaboration [2005–2014].**
- **MiniBooNE: Co-Convener of Detector Calibration Working Group; Deputy Detector and Operations Coordinator.**

Scientific Collaboration Memberships:

2018–present: [DUNE](#) (USA) [DUNE-UK PI, Code of Conduct Committee Chair, Spokesperson Advisory Committee]

2006–present: [T2K](#) (J-PARC, Japan) [International Co-Spokesperson, NIWG Convener]

2020–2025: [MINERvA](#) (USA)

2016–2024: [Super-Kamiokande](#) (Japan)

2013–2025: [Hyper-Kamiokande](#) (Japan)

2015–2021: [HPgTPC](#) (UK) [PI of UK Collaboration]

2005–2015: [SciBooNE](#) (FNAL, USA) [Co-Spokesperson]

2003–2005 [FINeSSE](#) (FNAL, USA)

2001–2012: [MiniBooNE](#) (FNAL, USA) [Detector Calibration Convenor]

1996–2003: [Milagro](#) (LANL, USA)

Experiment/Collaboration Proposals:

1. J. Brooke, *et al.*, [DUNE-UK] DUNE UK Data Acquisition Project: Stage 2, submitted to STFC PPRP Jan 2024 (APPROVED).
2. C. Andreopoulos, *et al.* [DUNE-UK] DUNE-UK Construction Grant, submitted to STFC PPRP Jan 2019 (APPROVED).
3. J. Monroe, *et al.*, [HPgTPC (CERN NP03)] “[Proposal to Measure Hadron Scattering with a Gaseous High Pressure TPC for Neutrino Oscillation Measurements](#)”, Sep 2017 (APPROVED).
4. K. Abe *et al.*, [T2K Collaboration], “[Proposal for an Extended Run of T2K to 20×10²¹ POT](#),” submitted to J-PARC PAC, June, 2016. (APPROVED).
5. P. Beltrame *et al.*, [UK Hyper-K Collaboration], “UK Strategy for Long Baseline Neutrino Oscillation Experiments,” submitted to STFC PPRP, May 2014. (APPROVED)
6. A. Grant, *et al.*, [T2KUK Collaboration], “UK Contributions to the T2K Experiment: Case for Support”, submitted to PPARC PPRP Jan, 2006. (APPROVED).
7. SciBooNE Collaboration, “Bringing the SciBar Detector to the Booster Neutrino Beam”, submitted to FNAL PAC Nov 2005, [arXiv:hep-ex/0601022v1](#). (APPROVED).
8. MiniBooNE Collaboration, “Addendum to the MiniBooNE Run Plan: MiniBooNE Physics in 2006”, submitted to FNAL PAC, Oct 2004 <http://www-boone.fnal.gov/publicpages/loi.ps.gz>. (APPROVED).
9. FINeSSE collaboration, “A proposal for a Near Detector in the Booster Neutrino Beamline: FINeSSE”, hep-ex/0402007.

External Committees:

2019–2022: [IPPP Steering Committee](#).

2019–2020: AIDAInnova Committee (ERC).

2018–2019: [STFC Particle Astrophysics Priority Evaluation Panel](#).

2014–2017: [STFC Particle Physics Advisory Panel \(PPAP\)](#).

2013–2017: [ICFA Neutrino Panel](#).

International Advisory Committee, 30th International Conference on Neutrino Physics and Astrophysics ([Neutrino 2022](#)).

International Advisory Committee, 29th International Conference on Neutrino Physics and Astrophysics ([Neutrino 2020](#)).

Local Organising Committee, 27th International Conference on Neutrino Physics and Astrophysics ([Neutrino 2016](#))

International Nulnt Commission Member

Scientific Program Committee, 10th International Workshop on Neutrino-Nucleus Interactions in the Few GeV Region ([NulInt15](#)).

Chair, 9th International Workshop on Neutrino-Nucleus Interactions in the Few GeV Region ([NulInt14](#)).

Scientific Program Committee, 8th International Workshop on Neutrino-Nucleus Interactions in the Few GeV Regions ([NulInt12](#)).

Scientific Program Committee, 7th International Workshop on Neutrino-Nucleus Interactions in the Few GeV Region ([NulInt11](#)).

Scientific Program Committee, 6th International Workshop on Neutrino-Nucleus Interactions in the Few GeV Region ([NulInt09](#)).

Scientific Program Committee, 5th International Workshop on Neutrino-Nucleus Interactions in the Few GeV Region ([NulInt07](#)).

External Teaching:

2023: Lecturer, Introduction to Quantum Physics, Harbour Education.

2014: [Lecturer, International Neutrino Summer School](#), St Andrews, Scotland.

2011–2013: [Tutor, STFC HEP Summer School](#), Somerville College, Oxford and University of Warwick.

2011: [Lecturer, International Neutrino Summer School](#), CERN.

2009: Lecturer, “[Man-made Neutrinos](#),” [NEPPSR 2009](#), Cape Cod, MA, USA.

2009: Lecturer, [45th Karpacz Winter School in Theoretical Physics](#).

2001–2004: Organised and lectured in MiniBooNE summer student lecture series at Fermilab.

Internal Teaching (at Oxford):

2024–25: CP1 and CP2 Physics (Y1) Tutor, A3 Quantum Mechanics (Y2) Tutor, B4 Nuclear and Particle Physics (Y3) Tutor, Pembroke College; Electronics Practical Labs (Y1), PhD Lectures on Neutrinos, Physics Department.

2023–24: CP1 and CP2 Physics (Y1) Tutor, B4 Particle and Nuclear Physics (Y3) Tutor, Pembroke College; PhD Lectures on Neutrinos, Physics Department.

Internal Teaching (at Imperial College):

2022–23: Y3 Nuclear and Particle Physics, Lecturer; PhD course on neutrino physics, Lecturer.

2021–22: Y3 Nuclear and Particle Physics, Lecturer; PhD course on neutrino physics, Lecturer.

2020–21: Y1 Tutorials, instructor; PhD course on neutrino physics, Lecturer.

2019–20: Y3 Lab, Head of Experiment for Wind Turbulence and Solar Radiation; Y1 Tutorials, instructor; Y4 Research Interfaces, “Champion”; PhD course on neutrino physics, Lecturer.

2018–19: Y2 Tutorials, instructor; PhD course on neutrino physics Lecturer.

2017–18: Y3 Tutorials, instructor, Y1 Tutorials, instructor; PhD course on neutrino physics Lecturer.

2016–17: Y2 Tutorials, instructor, Y3 Lab, Head of Experiment for Hall Effect/Photoelectric Effect.

2015–16: Y2 Lab Head of Experiment for Waves and Propagation; Y3 Tutorials, instructor; PhD course on neutrino physics, Lecturer.

2014–15: Y4 Advanced Particle Physics, Lecturer; Y2 Lab, Head of Experiment for Waves and Propagation; PhD course on neutrino physics Lecturer.

2013–14: Y4 Advanced Particle Physics, Lecturer; Y2 Lab, Head of Experiment for Interferometry and Holography; PhD course on neutrino physics Lecturer.

2012–13: Y4 Advanced Particle Physics, Lecturer; Y2 Lab, Head of Experiment for Interferometry and Holography; PhD course on neutrino physics Lecturer.

2011–12: Y2 Lab, Head of Experiment for Interferometry and Holography; PhD course on neutrino physics Lecturer.

2007–11: PhD course on neutrino physics Lecturer.

External Service:

Editorial Board Member of [MDPI instruments](#), an open access journal of scientific instrumentation.

Ad-hoc referee for European Journal of Physics C, Nuclear Instrumentation and Methods A, Modern Physics Letters A, Nature, Physical Review Letters, Physical Review C, Physical Review D, Physics Letters B, and Nature Communications.

Grant application reviewer for the Ministry of Science, Education, and Sports (Croatia), CNRS (France), JSPS (Japan), National Science Centre (Poland), ETHZ and SNSF (Switzerland), UKRI (UK), Science and Technology Facilities Council (UK), Department of Energy (USA).

2025: PhD external examiner for Dr Natsumi Taniuchi, University of Cambridge.

2025: PhD external examiner for [Dr Tetiana Kozynets](#), Niels Bohr Institute (Copenhagen).

2024: PhD external examiner for [Dr Nicholas Latham](#), University of Warwick.

2023: PhD external examiner for [Dr Christopher Thorpe](#), University of Lancaster.

2023: DPhil external examiner for [Dr Daniel Barrow](#), University of Oxford.

2021: PhD external examiner for [Dr Alexander Booth](#), University of Sussex.

2021: PhD external examiner for [Dr Joshua Tingey](#), University College London.

2018: PhD external examiner for [Dr Pratiksha Paudyal](#), University of Liverpool.

2017: PhD external examiner for [Dr Enrico Scantamburlo](#), Geneva University.

2012: PhD external examiner for Dr Eike Frank, Bern University.

2011: PhD external examiner for [Dr Jessica Mitchell](#), Cambridge University.

2011: DPhil external examiner for [Dr Chris Backhouse](#), University of Oxford.

2010: PhD tribunal president for [Dr Jose Alcaraz](#), IFAE (Barcelona).

2010: PhD external examiner for [Dr Antony Carver](#), University of Warwick.

Internal Service:

2024–present: Pembroke College Dean of Undergraduates (STEM).

2024–present: Pembroke College Sustainability Committee.

2024: Oxford [Physics Department Athena Swan](#) Team.

2024–present: Pembroke College Investment Committee.

2019–2023: Chair of Physics Department's [Juno Opportunity and Transparency Committee](#).

2018–2019: member of Physics Department's Juno Opportunity and Transparency Committee.

2015: Physics Department undergraduate admissions interviews (UCAS).

2012–2016: Organiser of HEP postgraduate lecture course.

2012–2016: HEP Group on-site First Aider.

2008–9: Imperial College Physics Department Exams Committee.

2007–10: Imperial College [HEP Seminar](#) Organiser.

2025: DPhil internal examiner for Dr Meiqi Chen, University of Oxford.

2025: DPhil internal examiner for Dr Alessandro Ruggiero, University of Oxford.

2024: DPhil viva internal examiner for Dr Rafael Hunt-Stokes, University of Oxford.

2022: PhD viva internal examiner for Dr Mohammad Hassanshahi, Imperial College London.

2021: PhD viva internal examiner for Dr Daniel Moise, Imperial College London.

2020: PhD viva internal examiner for Dr Albert Dow, Imperial College London.

2019: PhD viva internal examiner for Dr Oliver Lantwin, Imperial College London.

2018: PhD viva internal examiner for Dr Christian Laner, Imperial College London.

2017: PhD viva internal examiner for Dr Adam Elwood, Imperial College London.

2014: PhD viva internal examiner for Dr Edward Santos, Imperial College London.

2014: PhD viva internal examiner for Dr Matthew Kenzie, Imperial College London.
2013: PhD viva internal examiner for Dr Chris Parkinson, Imperial College London.
2012: PhD viva internal examiner for Dr Robin Nandi, Imperial College London.
2012: PhD viva internal examiner for Dr Andri Alekou, Imperial College London.

Postdoctoral researcher supervision:

2024–present: Dr Shyam Bhuller; [PDRA on DUNE](#) at University of Oxford.
2024–present: Dr Wanyun (Claudia) Su; [PDRA on DUNE](#) at University of Oxford.
2020–2023: Dr Pip Hamilton; [PDRA on DUNE](#) at Imperial College London.
2019–2022: Dr Abbey Waldron; [ERC Marie Curie Fellow](#) on HPTPC, DUNE, and MINERvA at Imperial College London; next post a Lectureship at QMUL (UK).
2016–2021: Dr Patrick Dunne; T2K, HPTPC, and DUNE at Imperial College London; next post a [Lectureship and Future Leaders Fellowship at Imperial](#) (UK).
2018: Dr Melissa Uchida; HPTPC at Imperial College; next: [Lectureship at Cambridge](#) (UK).
2016–2017: Dr Yuri Shitov; HPTPC at Imperial College; now at [IEAP CTU, Prague](#) (CZ).
2012–2014: Dr Asher Kaboth; T2K at Imperial College; now [Senior Lecturer at RHUL](#) (UK).
2011–2014: Dr Matthew Malek; T2K and Super-K at Imperial College; next post a [Lectureship at Sheffield University](#) (UK).

Student supervision:

2025–present: Supervising Ms María Luisa Velázquez Fernández, University of Oxford (DPhil candidate and Clarendon Scholar, DUNE).
2024–present: Supervising Mr Nathan Baudis, University of Oxford (DPhil candidate and Clarendon Scholar, T2K).
2023–present: Co-supervising Mr Yiwen Yang, University of Oxford (DPhil candidate, T2K and atmospheric neutrino flux modelling).
2020–2024: Co-supervised Dr Yassine Alj Hakim, Imperial College (Ph.D. 2024, “Joint $\nu\mu$ $CC0\pi/CC1\pi$ cross-section measurement on Carbon using T2K near detector ND280”), first post-PhD position at [University of Sheffield](#).
2020–2024: Supervised Dr Anežka Klustová, Imperial College (President’s Scholar and Ph.D. 2024, “[Measurement of nuclear dependence in inclusive antineutrino scattering](#)”), first post-PhD position at [Imperial College London, UK](#).
2017–2022: Supervised Dr Edward Atkin, Imperial College (Ph.D. 2022, “[Neutrino oscillation analysis at the T2K experiment including studies of new uncertainties on interactions involving additional final state hadrons](#)”), first post-PhD position at Imperial College London, UK.
2016–2020: Supervised Dr Toby Nonnenmacher, Imperial College (Ph.D. 2020, “[Development of detectors and simulation method for measurement of hadrons from neutrino interactions](#)”), first post-PhD position in the Department of Health, UK.
2014–2018: Supervised [Dr Clarence Wret](#), Imperial College (Ph.D. 2018, “[Minimising systematic uncertainties in the T2K experiment using near-detector and external data](#)”) first post-PhD position at the University of Rochester, USA.
2013–2017: Supervised Dr Wing Ma, Imperial College (Ph.D. 2017, “[Five sample joint neutrino/antineutrino oscillation analysis in T2K](#)”), first post-PhD position at DESY, DE.
2011–2015: Supervised Dr Philip Hamilton, Imperial College (Ph.D. 2015, “[A study of neutrino interactions in argon gas](#)”), first post-PhD position at University of Syracuse, USA.
2010–2014: Supervised Dr Peter Sinclair, Imperial College (Ph.D. 2014, “[Implementation of a multinucleon neutrino interaction simulation and comparison with T2K data](#)”), first post-PhD position at AlgoEngineering, London, UK.

2009–2013: Supervised Dr Samantha Short, Imperial College (Ph.D. 2013, “[Study of Neutrino-Induced Neutral Current Neutral Pion Production in the T2K Near Detector](#)”), first post-PhD position at Queen Mary University of London, London, UK.

2008–2012: Supervised Dr Patrick Masliah, Imperial College (Ph.D. 2012, “[Study of muon neutrino disappearance in the T2K experiment](#)”), first post-PhD position at Winton Capital, London, UK.

2007–2011: Supervised Dr Pawel Guzowski, Imperial College (Ph.D. 2011, “[Reconstruction of neutrino induced neutral current neutral pion events with the T2K ND280 Tracker and ECAL](#)”), first post-PhD position at the University of Manchester, UK.

2006–2010: Supervised Dr Joseph Walding (Imperial, Ph.D. 2010, “[A sub-GeV charged-current quasi-elastic muon neutrino cross-section on carbon at SciBooNE](#)”), first post-PhD position at College of William and Mary, USA; awarded Leverhulme Fellowship at Royal Holloway University of London, UK.

2025: Supervised Mr William Fahie, University of Oxford (UROP).

2023: Supervised Mr Maté Koszta, Imperial College (UROP).

2022–23: Supervised Ms Srishti Kashyap, Imperial College London (MSc).

2022: Supervised Ms Adriana Bercebal Ruiz, Imperial College (UROP).

2021–22: Supervised Mr Luke Boyden, Imperial College (MSci).

2021–22: Supervised Mr Roberto King, Imperial College (MSci).

2021: Supervised Mr Ezequiel Badgen, Imperial College (BSc).

2020: Supervised Dr Pietro Capuozzo, Imperial College (UROP).

2019–20: Supervised Mr Keyu He, Imperial College (MSci).

2019–20: Supervised Mr Shengan Shi, Imperial College (MSci).

2019: Supervised Mr Ziv Zhou, Imperial College (UROP).

2019: Supervised Mr Samuel Dobson, Imperial College (UROP).

2019: Supervised Ms Sophie Devoe, Caltech (UROP).

2018: Supervised Ms Maria Mironova, Imperial College (MSc).

2018: Supervised Mr Talla Babou, MIT (IROP).

2018: Supervised Mr Jonathan Zhang, UBC (IROP).

2017–18: Supervised Ms Anisha Kadri, Imperial College (MSci).

2017–18: Supervised Mr Alastair Lutton, Imperial College (MSci).

2017–18: Supervised Ms Priyanka Sadhwani, Imperial College (MSci).

2017–18: Supervised Mr Xiyuan Xia, Imperial College (MSci).

2017: Supervised Ms Clara Bachorz, Imperial College (UROP).

2017: Supervised Mr Seungho Han, Seoul National University (fIROP).

2017: Supervised Ms Eshita Joshi, Imperial College (UROP).

2015–16: Supervised Ms Eunice Chen, Imperial College (MSci).

2015–16: Supervised Mr Azeem Khan, Imperial College (MSci).

2015: Supervised Ms Georgina Sanjana, Imperial College (UROP).

2015: Supervised Mr Alexander Leonard, Imperial College (UROP).

2015: Supervised Dr Jacob Calcutt, Michigan State University (UROP).

2014: Supervised Dr Tessa Carver, Imperial College (UROP).

2014: Supervised Dr Timothee Gregoire, University of Paris Sud (UROP).

2014: Supervised Mr Martin Nicole, Imperial College (UROP).

2014: Supervised Mr Kiseong Lim, Seoul National University (IROP).

2014–15: Supervised Mr Jasminder Sidhu, Imperial College (MSci).

2014–15: Supervised Mr Muhsin Ali, Imperial College (MSci).

2013: Supervised Mr Alex Hild, Imperial College (MSc).
 2013: Supervised Mr Mahesh Vidhyadharan, Imperial College (MSc).
 2013: Supervised Dr Pueh Leng Tan, Imperial College (MSc).
 2012–13: Supervised Dr Jan Greis, Imperial College (MSci).
 2012–13: Supervised Mr Samuel Kessler, Imperial College (MSci).
 2012: Supervised Dr John Walker, Imperial College (MSc).
 2011–12: Supervised Dr Samuel Coquereau, Imperial Erasmus student (MSc).
 2007: Supervised Dr Daniel Orme (MSci).
 2002–06: Mentored Dr Serge Ouedraogo, (LSU Ph.D.).
 2005: Mentored Dr Ruth Toner (UROP).
 2003: Mentored Dr Jim Thome (UROP).
 2002: Mentored Dr Grady Schofield (UROP).

Outreach:

My work has appeared in the popular press many times.

2024: [Royal Society Summer Science Exhibition](#).

2017: Appeared in University of Geneva video about T2K (<https://vimeo.com/271826403>).

2016: Appeared in Youtube video explaining J-PARC physics programme (<https://www.youtube.com/watch?v=QYUqiSjSuSY>).

2016: Appeared on Economist Science blog (<https://goo.gl/AtVmhe>).

2009–12 Imperial College Particle Physics Masterclass (Organiser & Lecturer).

2008 Imperial College Particle Physics Masterclass (Lecturer).

2007 Judge, Imperial College Centenary Science Challenge.

2005 Judge, Illinois State Science Fair.

2004–present Tour guide and host for school science class visits to Fermilab.

2003 “[Particle Physics in Plain English](#)”, for 2003 Lepton Photon Conference.

2001–2004 Young Particle Physicists.

50 Selected Peer Reviewed Publications:

(Full list of publications available from [INSPIRE](#).)

1. K. Abe, *et al.* [T2K Collaboration], "Improved constraints on neutrino mixing from the T2K experiment with 3.13×10^{21} protons on target," [Phys.Rev.D 103 \(2021\) 11, 112008](#).
2. A. Deisting, A.V. Waldron, *et al.* [HPTPC Collaboration], “[Commissioning of a High Pressure Time Projection Chamber with Optical Readout](#)”, [Instruments 5 \(2021\) 2, 22](#).
3. S.B. Jones, T.S. Nonnenmacher, *et al.* [HPTPC Collaboration], “Off-Axis Characterisation of the CERN T10 Beam for Low Momentum Proton Measurements with a High Pressure Gas Time Projection Chamber”, [Instruments 4 \(2020\) 3, 21](#).
4. K. Abe, *et al.*, [T2K Collaboration], “Constraint on the matter-antimatter symmetry-violating phase in neutrino oscillations”, [Nature 580, 339–344\(2020\)](#), [arXiv:1910.03887 \[hep-ex\]](#).
5. L. Wan, *et al.* [Super-Kamiokande Collaboration], "Measurement of the neutrino-oxygen neutral-current quasielastic cross section using atmospheric neutrinos at Super-Kamiokande", [Phys.Rev. D99 \(2019\) no.3, 032005](#).
6. K. Abe, *et al.*, [T2K Collaboration], "Search for CP violation in Neutrino and Antineutrino Oscillations by the T2K experiment with 2.2×10^{21} protons on target", [Phys. Rev. Lett. 121 \(2018\), 171802](#).
7. K. Abe, *et al.*, [T2K Collaboration], "Characterisation of nuclear effects in muon-neutrino scattering on hydrocarbon with a measurement of final-state kinematics and correlations in charged-current pionless interactions at T2K", [Phys.Rev. D98 \(2018\) no.3, 032003](#), [arXiv:1802.05078 \[hep-ex\]](#).

8. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "First Measurement of Monoenergetic Muon Neutrino Charged Current Interactions", [Phys.Rev.Lett. 120 \(2018\) no.14, 141802](#).
9. K. Abe, *et al.*, [T2K Collaboration], "Measurement of neutrino and antineutrino oscillations by the T2K experiment including a new additional sample of ν_e interactions at the far detector", [Phys.Rev. D96 \(2017\) no.9, 092006](#).
10. J. Cao, *et al.*, [ICFA-Neutrino Panel], "Roadmap for the international, accelerator-based neutrino programme", [arXiv:1704.08181 \[hep-ex\]](#).
11. K. Abe, *et al.* [T2K Collaboration], "Combined analysis of neutrino and antineutrino oscillations at T2K," [Phys. Rev. Lett. 118, 151801, arXiv:1701.00432 \[hep-ex\]](#).
12. P. Stowell, *et al.*, "NUISANCE: a neutrino cross-section generator tuning and comparison framework," [arXiv:1612.07393 \[hep-ex\]](#), [JINST 12 P01016 2017](#).
13. C. Patrignani, *et al.*, [Particle Data Group], "Review of Particle Physics, §34.10 Accelerator Neutrino Detectors," <http://pdg.lbl.gov>, [Chin.Phys. C40 \(2016\) no.10, 100001](#).
14. K. Abe, *et al.* [T2K Collaboration], "Measurement of Coherent π^+ Production in Low Energy Neutrino-Carbon Scattering," [Phys.Rev.Lett. 117 \(2016\) no.19, 192501, arXiv:1604.04406 \[hep-ex\]](#).
15. K. Abe, *et al.* [T2K Collaboration], "Measurement of double-differential muon neutrino charged-current interactions on C_8H_8 without pions in the final state using the T2K off-axis beam," [Phys.Rev. D93 \(2016\) no.11, 112012, arXiv:1602.03652 \[hep-ex\]](#).
16. C. Wilkinson, *et al.*, [T2K NIWG] "Testing charged current quasi-elastic and multinucleon interaction models in the NEUT neutrino interaction generator with published datasets from the MiniBooNE and MINERvA experiments," [Phys.Rev. D93 \(2016\) no.7, 072010, arXiv:1601.05592 \[hep-ex\]](#).
17. X.-G. Lu, *et al.* "Measurement of nuclear effects in neutrino interactions with minimal dependence on neutrino energy," [Phys.Rev. C94 \(2016\) no.1, 015503, arXiv:1512.05748 \[nucl-th\]](#).
18. K. Abe, *et al.* [T2K Collaboration], "Measurement of muon antineutrino oscillations with an accelerator-produced off-axis beam," [Phys. Rev. Lett. 116, 181801, arXiv:1512.02495 \[hep-ex\]](#).
19. K. Abe, *et al.* [Hyper-K Collaboration], "Physics potential of a long-baseline neutrino oscillation experiment using a J-PARC neutrino beam and Hyper-Kamiokande," [PTEP 2015 \(2015\) 053C02, 10.1093/ptep/ptv061, arXiv:1502.05199 \[hep-ex\]](#).
20. K. Abe, *et al.*, [T2K Collaboration], "Measurements of neutrino oscillation in appearance and disappearance channels by the T2K experiment with 6.6×10^{20} protons on target," [Phys Rev D91 \(2015\), 072010](#).
21. K. Abe, *et al.*, [T2K Collaboration], "Search for short baseline ν_e disappearance with the T2K near detector," [Phys Rev D91 \(2015\) 5, 051102](#).
22. K. Abe, *et al.*, [T2K Collaboration], "Neutrino oscillation physics potential of the T2K experiment," [PTEP 2015 \(2015\) no.4, 043C01, arXiv:1409.7469 \[hep-ex\]](#).
23. K. Abe, *et al.*, [T2K Collaboration], "Measurement of the inclusive electron neutrino charged-current cross section on carbon with the T2K near detector," [Phys. Rev. Lett. 113, 241803 \(2014\), arXiv:1407.7389 \[hep-ex\]](#).
24. K. Abe, *et al.*, [T2K Collaboration], "Precise Measurement of the Neutrino Mixing Parameter θ_{23} from Muon Neutrino Disappearance in an Off-axis Beam," [Phys Rev Lett 112 181801 \(2014\)](#).
25. D. Allan, *et al.*, [T2KUK Collaboration], "The Electromagnetic Calorimeter for the T2K Near Detector ND280," [JINST 8 \(2013\) P10019](#).
26. K. Abe, *et al.*, [T2K Collaboration], "Evidence of Electron Neutrino Appearance in a Muon Neutrino Beam," [Phys. Rev. D 88 032002 \(2013\)](#).

27. K. Abe, *et al.*, [T2K Collaboration], "Measurement of the inclusive ν_μ charged-current cross section on carbon in the near detector of the T2K experiment," [Phys.Rev.D 87 092003 \(2013\)](#).
28. G. Cheng, *et al.*, [SciBooNE Collaboration], "Dual baseline search for muon antineutrino disappearance at $0.1 \text{ eV}^2 < \Delta m^2 < 100 \text{ eV}^2$," [Phys. Rev. D 86, 052009 \(2012\)](#).
29. A.A. Abdo, *et al.*, [Milagro Collaboration], "Observation and Spectral Measurements of the Crab Nebula with Milagro," [Astrophys.J. 750 63 \(2012\)](#).
30. K.B.M. Mahn, *et al.*, [SciBooNE Collaboration], "Dual baseline search for muon neutrino disappearance at $0.5 < \Delta m^2 < 40 \text{ eV}^2$," [Phys.Rev. D 85 032007 \(2012\)](#).
31. K. Abe, *et al.*, [T2K Collaboration], "Indication of Electron Neutrino Appearance from an Accelerator-produced Off-axis Muon Neutrino Beam ", [Phys.Rev.Lett. 107 041801 \(2011\)](#).
32. G. Cheng, *et al.*, [SciBooNE Collaboration], "Measurement of K^+ production cross section by 8 GeV protons using high energy neutrino interactions in the SciBooNE detector", [Phys.Rev.D. 84 012009 \(2011\)](#).
33. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "Measurement of the neutrino component of an antineutrino beam observed by a non-magnetized detector", [Phys.Rev.D 84 072005 \(2011\)](#).
34. Y. Nakajima, *et al.*, [SciBooNE Collaboration], "Measurement of Inclusive Charged Current Interactions on Carbon in a Few GeV Neutrino Beam", [Phys.Rev.D. 83 012005\(2011\)](#).
35. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "Measurement of ν_μ -induced charged-current charged pion production cross sections on mineral oil at $E_\nu \sim 1 \text{ GeV}$ ", [Phys.Rev.D 83 052007 \(2011\)](#).
36. K. Abe, *et al.*, [T2K Collaboration], "The T2K Experiment ", [Nucl. Instr. and Meth. A 659 106 \(2011\)](#).
37. Y. Kurimoto, *et al.*, [SciBooNE Collaboration], "Improved Measurement of Neutral Current Coherent π^0 Production on Carbon in a Few GeV ν Beam", [Phys.Rev.D. 81 111102\(R\) \(2010\)](#).
38. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "First Measurement of the Muon Neutrino Charged Current Quasielastic Double Differential Cross Section", [Phys. Rev. D 81, 092005 \(2010\)](#).
39. Y. Kurimoto, *et al.*, [SciBooNE Collaboration], "Measurements of Neutral Current π^0 Production on Carbon in a Few GeV ν Beam", [Phys.Rev.D 81 033004 \(2010\)](#).
40. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "Measurement of the ν_μ Charged Current π^+ to Quasi-Elastic Cross Section Ratio on Mineral Oil in a 0.8 GeV Neutrino Beam", [Phys.Rev.Lett. 103 081801 \(2009\)](#).
41. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "A Search for Electron Antineutrino Appearance at the $\Delta m^2 \sim 1 \text{ eV}^2$ Scale", [Phys.Rev.Lett. 103 111801 \(2009\)](#).
42. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "A Search for Muon Neutrino and Antineutrino Disappearance in MiniBooNE", [Phys.Rev.Lett. 103 061802 \(2009\)](#).
43. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "Unexplained Excess of Electron-Like Events From a 1-GeV ν Beam", [Phys.Rev.Lett.102, 101802 \(2009\)](#).
44. K. Hiraide, *et al.*, [SciBooNE Collaboration], "Search for Charged Current Coherent π Production on Carbon in a Few GeV ν Beam", [Phys.Rev.D.78, 112004 \(2008\)](#).
45. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "The MiniBooNE Detector", [NIM A 599 \(2009\) 28-46](#).
46. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], "First Observation of Coherent π^0 Production in Neutrino Nucleus Interactions with $E_\nu < 2 \text{ GeV}$," [Phys.Lett. B664:41-46, 2008, arXiv:0803.3423 \[hep-ex\]](#).

47. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], “Measurement of Muon Neutrino Quasi-Elastic Scattering on Carbon,” *Phys.Rev.Lett.* **100**, 032301 (2008), [arXiv:0706.0926 \[hep-ex\]](#).
48. A.A. Aguilar-Arevalo, *et al.*, [MiniBooNE Collaboration], “A Search for Electron Neutrino Appearance at the $\Delta m^2 \sim 1 \text{ eV}^2$ scale,” *Phys.Rev.Lett.* **98**, 231801 (2007), [arXiv:0704.1500v2 \[hep-ex\]](#).
49. Atkins, R. *et al.*, [Milagro Collaboration], “Observation of TeV Gamma Rays from the Crab Nebula with Milagro Using a New Background Rejection Technique,” *Astrophys. J.* **595** (2003) 803-811, [arXiv:astro-ph/0305038](#).
50. Atkins, R. *et al.*, [Milagro Collaboration], “Milagrito, a TeV Air Shower Array,” *NIM A* **449** (2000) 478, [arXiv:astro-ph/9912456](#).

Technical Notes and Memoranda

1. S.J. Brice, *et al.*, “Accelerator/Experiment Operations-FY2008,” [FERMILAB-TM-2421-DO](#), October 2008.
2. S.J. Brice, *et al.*, “Accelerator/Experiment Operations-FY2007,” [FERMILAB-TM-2401-DO](#), October 2007.

The following are internal documents. To obtain copies, contact the appropriate spokespersons.

1. T2K Technical Note #193, “Implementation of additional NIWG cross section parameterizations for 2014 analyses”.
2. T2K Technical Note #192, “Cross section parameters for 2014 oscillation analysis”.
3. T2K Technical Note #113, “Implementation of the NIWG cross section parameterization”.
4. T2K Technical Note #108, “Cross section parameters for the 2012a oscillation analysis”.
5. T2K Technical Note #32, “NEUT systematic studies for T2K 2010a analysis”.
6. T2K Technical Note #30, “T2K 2010a neutrino interaction systematic error choices”.
7. T2K Technical Note #20, “T2K 2010a neutrino event rate predictions”.

1. SciBooNE Memo, “SciBooNE High Voltage Requirements”.
1. MiniBooNE Memo “Review of Low Energy Excess Studies”.
2. MiniBooNE Memo “Review of Dirt and Cosmic Backgrounds”.
3. MiniBooNE Technical Note #161, “CC1 π^+ Cross Section Measurement Using CCQE Flux Extraction”.
4. MiniBooNE Technical Note #157, “CC1 π^+ Analysis Using Single Ring Fitters”.
5. MiniBooNE Technical Note #131, “Proposal to Create A Charged Current Pion Open Box”.
6. MiniBooNE Technical Note #106, “Energy Scale of Muons in MiniBooNE”.
7. MiniBooNE Technical Note #105, “Commissioning the Scintillating Calibration Cubes”.
8. MiniBooNE Technical Note #101, “Light Scattering with Bare Fiber Events”.
9. MiniBooNE Technical Note #99, “Angular Resolution of Muons in MiniBooNE”.
10. MiniBooNE Technical Note #98, “Design and Commissioning of the Muon Tracker”.
11. MiniBooNE Technical Note #95, “BooNE Detector MC Baseline Parameters and Variants”.
12. MiniBooNE Technical Note #93, “The Supernova Trigger Hotspot”.
13. The MiniBooNE Exotic Physics Book.
14. MiniBooNE Memo “Calibration Laser Study: NHIT Spikes”.
15. MiniBooNE Memo “Calibration Laser Timing Study”.
16. MiniBooNE Memo, “400nm Laser Power Output Study”.

1. Milagro Memo 8-10-00, “Second Look at Delta Theta Systematic and the Moon Shadow”.

2. Milagro Memo #54, "Delta(theta) vs. theta systematic and the Moon Shadow", June 1999.
3. Milagro Memo #18, "Electronic Drifts in the Igloos", December 1997.
4. Milagro Memo #7, "Igloo Studies", August 1997.

Selected Conference Proceedings

1. Wascko, M.O. for the T2K Collaboration, "T2K Status, Results, and Plans," XXVIII International Conference on Neutrino Physics and Astrophysics (Neutrino 2018), [doi:10.5281/zenodo.1286752](https://doi.org/10.5281/zenodo.1286752).
2. Wascko, M.O., "Recent Measurements of Neutrino-Nucleus Quasi-Elastic Scattering," XXIV International Conference on Neutrino Physics and Astrophysics (Neutrino 2010), [arxiv:1107.3400 \[hep-ex\]](https://arxiv.org/abs/1107.3400).
3. Morfin, J.G., *et al.*, "The Path Forward: Neutrino Induced Coherent Pion Production," Sixth International Workshop on Neutrino-Nucleus Interactions (NuInt09), [doi:[10.1063/1.3274173](https://doi.org/10.1063/1.3274173)].
4. Wascko, M.O., "Measurements of Neutrino Cross Sections Near 1 GeV," [45th Karpacz Winter School in Theoretical Physics, Acta Physica Polonica B, Vol 40, No 9, p 2421](#), [arXiv:0908.1979\[hep-ex\]](https://arxiv.org/abs/0908.1979).
5. Wascko, M.O., "Nu Physics With SciBooNE," Neutrino 2008, [J. Phys.: Conf. Ser. 136 042028](#).
6. Wascko, M.O., "MiniBooNE's First Neutrino Oscillation Result", PASCOS 07, [AIP Conf.Proc.957:283-286](#), 2007.
7. Wascko, M.O., "MiniBooNE CC1 π + / CCQE Cross Section Ratio", 2006, [hep-ex/0602050](#).
8. Wascko, M.O., "Prospects for MiniBooNE Antineutrino Running", 2006, [hep-ex/0602051](#).
9. Wascko, M.O., "Prospects for MiniBooNE Antineutrino Running", 2005, [hep-ex/0511002](#).
10. Wascko, M.O., "Measuring Charged-Current ν_μ Interactions in MiniBooNE", 2004, [hep-ex/0412008](#).
11. Wascko, M.O., "Study of the Moon & Sun Shadows in VHE Cosmic Rays," Proc. 26th ICRC, (1999), [astro-ph/9906388](#).
12. Wascko, M.O., "First Results From Milagrito: A Prototype Gamma Ray Observatory," American Astronomical Society Meeting #193, Austin, Texas, January 1999.

Conference Presentations

1. "Experimental Neutrino Physics in the UK", invited talk, [RECFA Visit to the UK](#), Royal Society, London, Sep 13 2024.
2. "Status of long baseline neutrino experiments," invited talk, The 16th International Workshop on Tau Lepton Physics (TAU2021), Indiana University, 29 Sep 2021.
3. "Neutrino physics, with a view of heavy neutral leptons," invited talk, [17th SHiP Collaboration Meeting \(Open Session\)](#), NIKHEF, NL, 5 June, 2019.
4. "T2K Results, Status, and Plans," plenary talk, [XXVIII International Conference on Neutrino Physics and Astrophysics](#) (Neutrino 2018), 4-9 June, 2018.
5. "R&D Towards High Pressure Gas TPC Neutrino Detector," NNN17, 18th International Workshop on Next generation Nucleon Decay and Neutrino Detectors (NNN17), University of Warwick, UK, October 26, 2017.
6. "Data releases and complications. Do we need unfolding?," 11th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region (NuInt17), Toronto, CA, June 24, 2017.
7. "T2K Status and Neutrino Interaction Measurements," [Neutrino Frontier Workshop](#), Nov 29 2016, Kanazawa, Japan.
8. "HPTPC R&D in the UK for CPV," Workshop on Neutrino Near Detectors based on gas TPCs," CERN, Nov 9, 2016.
9. "Neutrino-Nucleus Cross-Section Experiments," PhyStat-nu, Kavli-IPMU, Kashiwa, Japan, 2016.

10. "Current Program at J-PARC and Projections," [Third International Meeting for Large Neutrino Infrastructures](#), KEK, Tsukuba, Japan, 2016.
11. "Towards a High Pressure Gas TPC" [5th Open Hyper-Kamiokande Meeting](#), UBC, CA, 2014.
12. "High Pressure Gas TPC R&D," [2nd Hyper-Kamiokande EU Meeting](#), CERN, CH, 2014.
13. "Future Long Baseline Neutrino Experiments and Detectors," invited talk, [Institute of Physics Joint APP and HEPP Meeting](#), 9 April 2014, RHUL, UK.
14. "[Neutrino-Nucleus Interaction Models and Measurements](#)," GDR Neutrinos 2013, Nov 11, 2013, IPNL, Lyon, France.
15. "[Overview of, and Motivations for Studying, Neutrino Interactions](#)," invited talk, American Physical Society April Meeting, 15 April 2013, Denver, CO, USA.
16. "Other Opportunities in Neutrino Physics," invited talk, [PPAP UK Community Meeting](#), Birmingham University, 18 September, 2012.
17. "Neutrino Physics with SciBooNE", poster presentation, [IOP HEPP Meeting](#), Queen Mary University of London, April 2-4 2012.
18. "Search for Sterile Neutrinos with MiniBooNE," invited talk, [IOP Half Day Meeting on Neutrino Physics](#), Queen Mary University of London, 18 April, 2011.
19. "[Neutrino and Antineutrino Cross Section Measurement Issues](#)," invited talk, NuInt11, Dehradun, India, 11 March, 2011.
20. "[Neutrino and Antineutrino Oscillation Results from MiniBooNE](#)," invited talk, [Workshop on Neutrino Physics](#), Institute for the Physics and Mathematics of the Universe (IPMU), University of Tokyo, 8 November, 2010.
21. "A Novel Approach to the Search for CP Violation in Neutrinos: DAEδALUS," [UK Neutrino Network Meeting](#), University of Manchester, 29 September 2010.
22. "[Quasi-Elastic Scattering Measurements](#)," plenary talk, [XXIV International Conference on Neutrino Physics and Astrophysics](#), 14-19 June, 2010.
23. "Cross Sections After SciBooNE and T2K," invited talk, [CERN PS Neutrino Workshop](#), 17-18 March, 2010.
24. "The Path Forward," invited talk, [NuInt09](#), Sitges, Spain, May 2009.
25. "[The State of the Neutrino Mass Spectrum](#)," invited talk, [APS April Meeting](#), Denver, CO, USA, May 2009.
26. "[Neutrino Physics with SciBooNE](#)," submitted talk, APS April Meeting, Denver, CO, USA, May 2009.
27. "[Working on an Experiment Half a World Away](#)," invited talk, APS April Meeting, Denver, CO, USA, May 2009.
28. "Update on MiniBooNE Low Energy Excess", plenary talk, [Neutrino Frontiers 2008](#), Minneapolis, MN, USA, October 2008.
29. "Physics from the BooNEs," plenary talk, [Fermilab User's Meeting 2008](#), FNAL, Batavia, IL, USA, June 2008.
30. "Nu Physics with SciBooNE", plenary talk, Elba Workshop on Electron-Nucleus Scattering ([Elba X](#)), Elba, Italy, June 2008.
31. "Nu Physics with SciBooNE", XXIII International Conference on Neutrino Physics and Astrophysics ([Neutrino2008](#)), Christchurch, NZ, May 2008.
32. "[Update on MiniBooNE Neutrino Oscillation Result](#)", Beams for European Neutrino Experiments Meeting ([BENE 07](#)), CERN, Geneva, CH, Oct 2007.
33. "First Data from SciBooNE", European Physical Society Conference on High Energy Physics ([EPS HEP 07](#)), Manchester, UK, Jul. 2007.
34. "First Oscillation Results from MiniBooNE", 13th International Symposium on Particles, Strings and Cosmology ([PASCOS'07](#)), Imperial College, Jul. 2007.

35. "Searching for New Physics In Neutrino Experiments", plenary talk, [Aspen Winter Conference 2007](#), Aspen CO, Jan. 2007.
36. "First Look At MiniBooNE Antineutrino Data", plenary talk, [Neutrino Beams and Instrumentation Workshop](#), CERN, Sep 2006.
37. "Neutrino Cross Section Experiments," plenary talk, [NuFact06](#) Workshop, Irvine, CA, Aug 2006.
38. "[Antineutrino Measurements with MiniBooNE](#)," parallel talk, [PANIC05](#), Santa Fe, NM, October, 2005.
39. "Antineutrino Measurements with MiniBooNE," plenary talk, [NuInt05](#) Workshop, Okayama, Japan, September, 2005.
40. "MiniBooNE $CC1\pi^+$ /CCQE Cross Section Ratio," plenary talk, [NuInt05](#) Workshop, Okayama, Japan, September, 2005.
41. "Antineutrino Measurements with MiniBooNE," parallel talk, [NuFact05](#) Workshop, Frascati, Italy, June, 2005.
42. "Measuring $CC1\pi^+$ Events in MiniBooNE," [DNP 2004](#), Chicago, IL, October, 2004.
43. "Measuring Charged-Current $CC1\pi^+$ Interactions in MiniBooNE," [DPF 2004](#), Riverside, CA, August, 2004.
44. "The Latest from MiniBooNE," plenary talk, The Tevatron Connection Symposium, FNAL, August, 2004.
45. "[Quo Vadis, MiniBooNE?](#)" plenary talk, [Fermilab Users Meeting 2004](#), FNAL, May, 2004.
46. "Short-baseline Accelerator Neutrinos," plenary talk, Aspen Winter Conf. 2004, Aspen, CO, January, 2004.
47. "Neutrino Physics with FINESS," invited talk, CIPANP 2003, NY, NY, May, 2003.
48. "MiniBooNE: Up and Running," plenary talk, [Neutrinos and Implications for Physics Beyond the Standard Model](#), Stony Brook, NY, 11 October, 2002.
49. "MiniBooNE Update," plenary talk, XVI Rencontre de Physique, LaThuile, Italy, 5 March, 2002.
50. "Results from Milagrito on TeV Emission from AGN," [American Physical Society Four Corners Sectional Meeting](#), Tucson, AZ, 1 October, 1999
51. "Study of The Shadow of the Moon and Sun in VHE Cosmic Rays," 26th ICRC, Salt Lake City, UT, USA, August, 1999.
52. "First Results from Milagrito," UNM/LANL Astrophysics Symposium, Albuquerque, NM, USA, 30 April, 1999.
53. "First Results from Milagrito," [American Astronomical Society Meeting #193](#), Austin, TX, USA, January, 1999.
54. "Study of the Shadow of the Moon with Milagro," IGPP Annual Meeting, Los Alamos, NM, USA, September 1998.
55. "The Milagro Gamma Ray Observatory," [American Physical Society Four Corners Sectional Meeting](#), Albuquerque, NM, 4 April, 1998, Note: Won APS Prize for Best Student Presentation.

Colloquia and Seminars

1. "[The search for CP violation by neutrinos](#)," Oxford Particle Physics Seminar, Nov 11, 2021.
2. "[Searching for new physics with ghost particles](#)" Imperial College Inaugural Lecture, May 26 2021.
3. "[Using Neutrino Oscillation to Study the Matter/Antimatter Asymmetry of the Universe](#)" Physics Colloquium University of Lancaster, May 2018.
4. "[Neutrino Interaction Studies and Issues at T2K](#)," Particle and Nuclear Theory Seminar, J-PARC, Oct 20, 2016.

5. [“Using Neutrino Oscillation to Study the Matter/Antimatter Asymmetry of the Universe”](#) Special Seminar at University of California, Irvine, Feb 2016.
6. [“Neutrino Scattering Results From T2K,”](#) Joint Theoretical and Experimental Seminar (Wine and Cheese Seminar), FNAL, 7 November, 2014.
7. [“Using Neutrino Oscillation to Study the Matter-Antimatter Asymmetry of the Universe,” Physics Colloquium, University of Chicago,](#) 6 Jun 2013.
8. [“Search for Sterile Antineutrinos with \$\Delta m^2 \sim 1\text{eV}^2\$ with SciBooNE and MiniBooNE,”](#) HEP Seminar, University of Birmingham, 16 Jan 2013.
9. [“Search for Sterile Neutrinos with \$\Delta m^2 \sim 1\text{eV}^2\$ with SciBooNE and MiniBooNE,”](#) LHEP Seminar, University of Bern, 14 March 2012.
10. [“First Nue Appearance Results from T2K,”](#) HEP Seminar, University College London, 17 Feb 2012.
11. [“Search for Sterile Neutrinos with \$\Delta m^2 \sim 1\text{eV}^2\$ with SciBooNE and MiniBooNE,”](#) HEP Seminar, Queen Mary University of London, 21 Oct 2011.
12. [“Search for Sterile Neutrinos with \$\Delta m^2 \sim 1\text{eV}^2\$ with SciBooNE and MiniBooNE,”](#) HEP Seminar, Royal Holloway University of London, 12 Oct 2011.
13. [“First Nue Appearance Results from T2K,”](#) Particle Physics Seminar, Nevis Labs, Columbia University, 15 Jun 2011.
14. [“Search for Sterile Neutrinos with \$\Delta m^2 \sim 1\text{eV}^2\$ with SciBooNE and MiniBooNE,”](#) HEP Seminar, Imperial College London, 1 June 2011.
15. [“First Nue Appearance Results from T2K,”](#) Particle Physics Seminar, Caltech, 25 April 2011.
16. [“A Novel Approach to the Search for CP Violation in Neutrinos: DAEδALUS,”](#) Particle Physics Seminar, University of Sheffield, 12 January 2011.
17. [“Using Neutrino Oscillation to Study the Matter-Antimatter Asymmetry of the Universe,” Physics Colloquium, Northeastern University,](#) 29 Nov 2010.
18. [“Quasi-Elastic Scattering Measurements,”](#) FNAL PPD/Neutrino Department Seminar, Fermilab, 16 September, 2010.
19. [“A Novel Approach to the Search for CP Violation in Neutrinos: DAEδALUS,”](#) Seminar, Cockcroft Institute for Accelerator Research, 10 June 2010.
20. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,”](#) HEP Seminar, Imperial College London, 9 June 2010.
21. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,”](#) PPD Seminar, Rutherford Appleton Lab, 26 May 2010.
22. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,” High Energy Physics Seminar,](#) Tufts University, 8 Mar 2010.
23. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,” High Energy Experimental Seminar,](#) Boston University, 5 Mar 2010.
24. [“The Hunt For the Last Neutrino Mixing Angle,” Physics Colloquium, Northeastern University,](#) 18 Feb 2010.
25. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,”](#) Nuclear Physics Seminar, University of Kentucky, 11 Feb 2010.
26. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,” High Energy Experimental Seminar, Rutgers University,](#) 2 Feb 2010.
27. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,” HEP Seminar, University College London,](#) 22 Jan 2010.
28. [“Measurements of Neutral Current Neutral Pion Production by Neutrinos with SciBooNE,”](#) HEP Seminar, Cambridge University, 19 Jan 2010.

29. "Searching for New Physics with the Fermilab Booster Neutrino Beam," HEP Seminar, University of Maryland, 14 Oct 2009.
30. "[The Hunt For the Last Neutrino Mixing Angle](#)," [Physics Colloquium](#), University of Wisconsin, 4 Sep 2009.
31. "Neutrino Physics with SciBooNE and T2K," [High Energy Physics Seminar, Columbia University](#), 10 Mar 2009.
32. "Neutrino Physics with SciBooNE and Beyond," High Energy Physics Seminar, Yale University, 16 Feb 2009.
33. "[Search For Charged Current Coherent Pion Production at SciBooNE](#)," [Particle Physics Seminar, University of Birmingham](#), 3 Dec 2008.
34. "First Neutrino Oscillation Results From MiniBooNE," [EPP Seminar](#), University of Edinburgh, 14 Dec 2007.
35. "First Neutrino Oscillation Results From MiniBooNE," [PPE Seminar](#), University of Glasgow, 13 Dec 2007.
36. "Neutrino Physics with SciBooNE," LNS Lunchtime Seminar, Massachusetts Institute of Technology, 4 Dec 2007.
37. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, University of Liverpool, 15 Nov 2007.
38. "First Neutrino Oscillation Results From MiniBooNE," Particle Physics and Particle Astrophysics Seminar, University of Sheffield, 14 Nov 2007.
39. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, Sapienza Università di Roma, 9 Nov 2007.
40. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, Rutherford Appleton Laboratory, 16 May 2007.
41. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, University College London, 11 May 2007.
42. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, University of Warwick, 10 May 2007.
43. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, Oxford University, 8 May 2007.
44. "First Neutrino Oscillation Results From MiniBooNE," Physics Department Colloquium, Cal State Long Beach, 30 April 2007.
45. "First Neutrino Oscillation Results From MiniBooNE," Physics Research Conference, Caltech, 26 April 2007.
46. "First Neutrino Oscillation Results From MiniBooNE," HEP Bohr Lunch Seminar, University of Manchester, 13 April 2007.
47. "First Neutrino Oscillation Results From MiniBooNE," HEP Seminar, Imperial College, 12 April 2007.
48. "Low Energy Neutrino Physics with SciBooNE: A New Experiment at Fermilab," UTeV Seminar, Fermilab, 7 July 2006.
49. "MiniBooNE $CC1\pi^+$ /CCQE Cross Section Ratio," HEP Seminar, Imperial College, London, 17 November, 2005.
50. "MiniBooNE $CC1\pi^+$ /CCQE Cross Section Ratio," HEP Seminar, University of Chicago, 7 November, 2005.
51. "MiniBooNE $CC1\pi^+$ /CCQE Cross Section Ratio," Joint Theoretical and Experimental Seminar (Wine and Cheese Seminar), FNAL, 7 October, 2005.
52. "The Physics of Neutrino Oscillations and MiniBooNE," Physics Department Colloquium, Virginia Polytechnic Institute and State University, 2 September, 2005.

53. "Neutrino Oscillations & MiniBooNE," Phys. & Astro. Dept. Seminar, Univ. of Delaware, 28 February, 2005.
54. "Neutrino Oscillations & MiniBooNE," Phys. Dept. Colloquium, Texas A&M Univ., 19 November, 2004.
55. "Search for Antiprotons in VHE Cosmic Rays with Milagrito," Nuclear and Particle Physics Seminar, Columbia University, 22 October, 2001.
56. "Search for Antiprotons in VHE Cosmic Rays with Milagrito," HEP Seminar, The Ohio State University, 6 June, 2001.
57. "Search for Antiprotons in VHE Cosmic Rays with Milagrito," Joint Theoretical and Experimental Seminar (Wine and Cheese Seminar), FNAL, 4 May, 2001.
58. "Search for Antiprotons in VHE Cosmic Rays with Milagrito," High Energy Physics Seminar, Louisiana State University, November, 2000.
59. "Search for Antiprotons in VHE Cosmic Rays with Milagrito," High Energy Physics and Cosmology Seminar, University of Utah, November, 2000.
60. "Studying Very High Energy Astrophysics with the Milagro Gamma Ray Telescope," Los Alamos Student Association Colloquium, 24 September, 1999.