# Dr Jeanne Wilson - Curriculum Vitae

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## 1. Personal Information

Name: Jeanne Rachel Wilson Hawke (Dr. Jeanne Wilson for academic & publication purposes)

Date of Birth: 30<sup>th</sup> May 1978

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# 2. Academic Qualifications

July 2013: Post Graduate Certificate of Academic Practice, QMUL

July 2004: D.Phil. in Particle Physics, University of Oxford. Thesis entitled: "A Measurement of the <sup>8</sup>B Solar Neutrino Energy Spectrum at the Sudbury Neutrino Observatory". July 2000: M.Phys. in Physics and Astronomy, University of Sheffield. First class, dual honours.

# 3. Present Appointment

<u>August 2019 - present:</u> Reader in Particle Physics in the Department of Physics, Experimental Particle Physics Group, King's College London.

## 4. Previous Appointments

<u>Jan 2010 - July 2019:</u> Permanent academic position at Queen Mary University of London, School of Physics and Astronomy. Appointed at Senior Lecturer level in January 2010.

Confirmed in post, January 1<sup>st</sup> 2013. Promoted to Reader August 2016.

<u>Jan 2008 – Jan 2010:</u> Leverhulme Early Career Fellowship working on the SNO+ experiment in the Department of Particle Physics at the University of Oxford. During this time I also held a stipendiary Lectureship position at Oriel College, Oxford, for 3 hours tutorial teaching per week.

<u>Oct 2004 – Oct 2007</u>: PPARC Postdoctoral Fellowship working on the COBRA neutrino-less double beta decay experiment in the Department of Physics and Astronomy, University of Sussex. Followed by a three-month career break (marriage and honeymoon).

<u>July 2004 – Sep 2004:</u> Temporary postdoctoral position at the University of Oxford working on analysis for the Sudbury Neutrino Observatory (SNO) experiment.

#### 5. Special Awards, Honours and Distinctions

- <u>2016 Breakthrough Prize in Fundamental Physics</u> awarded to K2K/T2K, KamLAND, Daya Bay, Super-Kamiokande and SNO experiments. Received share of award for work on both SNO and T2K.
- Acknowledged by Art McDonald, joint recipient of the <u>2015 Nobel Prize in Physics</u> for contributions to the SNO results.
- The "Neutrino Physics Group" was awarded the <u>Faculty of Science and Engineering</u> <u>Research Performance Award 2016</u> for "Contribution in research recognised in the 2015 Nobel Prize and the Breakthrough Prize for Fundamental Physics".
- <u>Faculty of Science and Engineering, Research Performance Award 2014</u>. Member of T2K team honoured for "the first observation of electron neutrinos in a muon neutrino beam".
- Place on Queen Mary, <u>High Potential Leaders course</u>, 2012-13.
- Queen Mary, Science and Engineering Faculty Research prize, 2011.
- <u>Member of the Institute of Physics</u>, 2000 present (full member since 2008).
- <u>Leverhulme Early Career Fellowship</u> awarded in 2007. The Leverhulme Trust is amongst the largest all subject providers of research funding in the UK and puts emphasis on the originality and significance of projects to be funded. (Success rate ~8%.)

- <u>PPARC Postdoctoral Fellowship</u> awarded in 2004. PPARC has since been replaced by the STFC but at the time was the main government funding body for grants in my field. The Fellowships were highly competitive with an application success rate of <10%.
- <u>RAS Penston prize, runner up</u> 2004 for my thesis, entitled "A measurement of the <sup>8</sup>B Solar Neutrino Energy Spectrum at the Sudbury Neutrino Observatory".
- <u>Tom Kaiser prize in astronomy</u>, University of Sheffield, 2000.
- <u>CERN summer student program</u> I obtained a place on this highly competitive program, working on the CHORUS experiment at CERN for 3 months in 1999.
- <u>Winnifred Moulds prize</u>, 1998, <u>Hicks prize</u>, 1998, <u>Fiddes prize</u>, 1997 & <u>Hicks bursary</u>, 1996, all from the University of Sheffield

# 6. Publications

My publication record can be found at the following sources:

https://inspirehep.net/author/profile/Jeanne.R.Wilson.1

https://orcid.org/0000-0002-6647-1193

https://arxiv.org/a/wilson\_j\_4.html

I am author of 50 papers, plus 11 other citable documents, with a total of over 13,000 citations. Seven of my papers have received over 500 citations. My  $h_{\text{HEP}}$  index<sup>1</sup> is 32. As is the norm in experimental particle physics, many of these publications are large collaboration papers. In all these collaborations, author lists are strictly alphabetical.

## 7. Teaching and Supervision

I have taught a number of undergraduate courses, receiving good feedback including first year Mathematical Techniques, first year Laboratory, final year Projects and Synoptic physics. I have tutored in a number of subjects including special relativity and quantum mechanics. I have supervised 4 PhD students to completion and have been asked to act as examiner for 9 students.

#### 8. Research

My research aims to probe the fundamental properties of the neutrino, the most weakly interacting fundamental particle, through measurements of long baseline neutrino oscillations in <u>T2K</u> and <u>Hyper-Kamiokande</u> and a search for neutrino-less double beta decay with the <u>SNO+ experiment</u>. For the Hyper-Kamiokande experiment I am currently focusing on the design and installation of the outer detector veto system, and for SNO+ I hold the role of analysis coordinator and am involved in many analyses including low energy solar neutrino measurements and a measurement of cosmic muon induced neutrons.

My ultimate goal is to answer three main questions: 1) Does CP violation exist in the lepton sector to explain the existence of our matter dominated universe? (T2K and Hyper-Kamiokande) 2) Is the neutrino a Majorana particle that can act as its own anti-particle, rather than a Dirac particle obtaining mass through the Higgs mechanism like all other fundamental particles? (SNO+) 3) What is the absolute mass scale of the neutrino? (SNO+)

#### 9. Grants

I have participated in a number of successful grant submissions for the QMUL particle physics group, and the UK Hyper-Kamiokande and SNO+ collaborations. In addition to my 2 post-doctoral fellowships, I was awarded a £1M ERC early career grant in 2011 for work on SNO+.

<sup>&</sup>lt;sup>1</sup> See <u>physics/0508025</u> for an explanation of this metric.