

CV created

September 11, 2013

---

by

Silke Weinfurtner

research interests

- semi-classical gravity and quantum gravity
  - fluid dynamics
  - condensed matter physics
  - quantum information
-

## curriculum vitae

**Name** Silke Christine Edith Weinfurtner  
**Position** Proleptic Lecturer  
**Work address** School of Mathematical Sciences  
 The University of Nottingham  
 The Mathematical Sciences Building  
 University Park  
 Nottingham  
 NG7 2RD  
 UK  
**E-mail** silkiest@gmail.com  
**Phone** +393935720692  
**Date of Birth** 17.03.1977  
**Country of Birth** Germany

## Research grants

Funding ID	Duration	Amount
Marie-Curie International Outgoing Fellowship, Europe	Sep 2008– Aug 2011	216.437 EUR
Perimeter Institute conference funding, Waterloo, Canada	24–28 August 2009	25.000 CAD
PITP conference funding, Vancouver, Canada	24–28 August 2009	4.000 CAD
Young Researchers Grant, SISSA, Trieste, Italy	05/2011–08/2012	25.000 EUR
Marie-Curie CIG, Europe	09/2011–08/2014	75.000 EUR
ICTP conference funding, Trieste, Italy	9–13 July 2012	25.000 EUR
SISSA conference co-funding, Trieste, Italy	9–13 July 2012	3.000 EUR
FQXi Mini-grant, USA	2012 – 2013	5.000 USD
Young Researchers Grant, SISSA, Trieste, Italy	08/2012–07/2013	18.425 EUR

## Prizes and Awards

05/2013 Royal Society University Research Fellowship (UK), 598.062 GBP;  
 05/2013 Nottingham Advanced Research Fellowship (UK), 217.163 GBP;  
 05/2013 Vidi award (Netherlands), 800.000 EUR;  
 09/2012–08/2013 SISSA Research Award for Young Scientists;  
 2011 / 2012 ERC-2012-StG invitation to Step 2 (including interview in Brussels); Two days before the winners were announced my application was declared ineligible as the status of my host institute (ICTP, Trieste in Italy) has changed shortly before / during the evaluation process.  
 09/2011–08/2014 Marie Curie Actions — Career Integration Grant (CIG);  
 05/2011–10/2012 SISSA Research Award for Young Scientists;  
 11/2010 Invitation to become an FQXi member;  
 09/2008–09/2011 Marie Curie Actions — International Outgoing Fellowships (IOF);  
 2006 Victoria University PhD completion scholarship;  
 2005 New Zealand Postgraduate Study Abroad Award;  
 10/2004–10/2005 DAAD partial stipend for overseas studies;  
 09/2004 Hartle Prize of the International Society on GR and Gravitation for student presentation.

## Academic and research record

10/2013 Royal Society Fellow and Proleptic Lecturer at the University of Nottingham, Nottingham (UK);  
 09/2010–09/2013 Advanced Postdoctoral Research Fellow at SISSA, Trieste (Italy);  
 09/2007–08/2010 Postdoctoral Research Fellow hired by Prof. Unruh at UBC, Vancouver, (Canada);  
 12/2003–06/2007 PhD student supervision of Prof. Visser at Victoria University of Wellington, (New Zealand);  
 05/2002–05/2003 Master thesis supervision of Prof. Cirac at MPQ, Garching (Germany);  
 1997–2002 Undergraduate and graduate studies in Theoretical Physics at TUM, Munich, (Germany).  
 1996–1997 Undergraduate studies in Applied Physics at the Fachhochschule, Munich, (Germany).

## Scientific leadership

I have taken a leadership role in managing and developing several junior graduate:

2005–2007 Project-supervision (overall guidance of M. Visser) of Petarpa Boonserm;  
 2007–2008 Project-supervision (overall guidance of M. Visser) of Anglea White;  
 2008–2009 Co-supervision (overall guidance of W.G. Unruh) of Mauricio Richartz;  
 2008–2010 Co-supervision (overall guidance of W.G. Unruh) of Matt Penrice;  
 2010–2012 Co-supervision (overall guidance of S. Liberati) of Angus Prain;  
 since Oct 2012 Co-supervision (overall guidance of J. Niemela) of Matt Penrice and Stefano Collovari.

Throughout my post-graduate carer I have engaged in organizing seminars / workshops / conferences:

2012 Lead organizer of “Effective gravity in fluids and superfluids”, at ICTP in 23–27 July 2012.  
 2010–2012 Organizer of the bi-weekly Astroparticle Journal Club at SISSA;  
 2007–2010 Organizer of the weekly gravity group seminar, including invitations and travel arrangements;  
 2008 Co-chaired the parallel session on “Horizons”, 24th Texas Symposium on Rel. Astrophysics;  
 2009 Lead organizer of “Emergent Gravity IV” a 5-days workshop on quantum gravity;

## Highlighted publications

I would like to focus on five articles in particular. Four of them published in Phys. Rev. Lett. in four different research areas:

- (1) PRL **107**, 131303 (2011): Discrete quantum gravity (causal dynamical triangulations); Citations: **26**.
- (2) PRL **106**, 021302 (2011): Experimental fluid dynamics and analogue gravity; Citations: **64**.
- (3) PRL **102**, 251601 (2009): Quantum gravity (Horava–Lifshitz gravity); Citations: **169**.
- (4) PRL **31**, 151301 (2006): Quantum gravity phenomenology and analogue gravity; Citations: **27**.

In particular, the experimental results reported in (2) attracted broader interest, and has been reported on in articles published in *Physics Today*, “Tabletop measurements of Hawking radiation”, *Science News*, “Black Holes in the Bathtub”, and in form of a synopses within *APS-Viewpoints*, “Making waves”. Furthermore, the companion-article to reference (3), published in JHEP *Quantum gravity without Lorentz invariance* is amongst the 100 most highly cited papers during 2010 in the hep-th archive. Last but not least, I would like to point out the following publication of mine,

(5) **Cosmological particle production in emergent rainbow spacetimes**,  
 which has been selected by the Editorial Board of Classical and Quantum Gravity (CQG) as part of the journal’s Highlights of 2008 / 09. In total my scientific articles have been cited **870** times (date: 2013-02-13).

## Highlighted conference/workshop/school presentations and invitations

I have been invited to present / lecture at several conferences, whose topics spanning from analogue gravity, quantum gravity, fluid dynamics, condensed matter physics to quantum information. In 2012 I was invited to give a 75 min presentation at the Collaborative program on holographic applications, out-of-equilibrium phenomena, gravity & analogue gravity in Paris. In 2010 / 2011 I received several invitations to present on "Measurement of stimulated Hawking emission in an analogue system", 14 of which I was able to accept. Furthermore, in 2009 I was invited to give a colloquium presentation at the Perimeter Institute, Waterloo, Canada. (\* I had to decline several invitations in 2013 due to my pregnancy.)

## Selection of invited presentation for conference / workshop / school / colloquium

22–27 Sep 2013\* Entanglement in Curved Spacetime, Banff (BIRS), Canada;  
 22–26 Jul 2013\* Plenary speaker at *Loops 13* at the Perimeter Institute in Waterloo, Canada;  
 22–25 May 2013\* *Intrinsic Decoherence in Nature* at the Galiano Island, British Columbia, Canada;  
 29–31 Oct 2012 *Collaborative program on holographic applications, out-of-equilibrium phenomena, gravity & analogue gravity* in Paris, France;  
 03–08 Jun 2012 *Quantum Meets Gravity and Metrology* at the Physikzentrum Bad Honnef, Germany;  
 26–28 Oct 2011 *Emergence and Effective Field Theories* at Perimeter Institute, Waterloo, Canada;  
 13–15 Oct 2011 *Gravity and Lorentz Violations* at Cambridge University, UK;  
 4–8 Jul 2011 *Interface between Statistical Mechanics and Quantum Information Theory*, El Escorial, Spain;  
 27 Jun–1 Jul 2011 *New trends in the physics of quantum vacuum* at ECT, Trento, Italy;  
 16–21 May 2011 SIGRAV Graduate School IX Edition *Analogue Gravity*, Como, Italy;  
 5–9 Jul 2010 D4 parallel session at 19th *International conference on GR and gravitation*, Mexico City;  
 11–18 Nov 2009 *Colloquium presentation* at the Perimeter Institute, Waterloo, Canada.  
 8–10 Nov 2009 *Gravity at a Lifshitz Point* at Perimeter Institute, Waterloo, Canada;  
 25–29 Aug 2008 *Emergent Gravity III* at MIT, Cambridge, USA;

## Selection of invited seminars and collaboration visits

7Mar 2013 University of Oxford (Oxford, UK);  
 7Oct–11Oct 2012 University of Sussex (in Brighton, UK);  
 30Oct–07Oct 2012 University of Nottingham (in Nottingham, UK);  
 23Mar–27Mar 2012 INR of the Russian Academy of Sciences (in Moscow, Russia);  
 30Mar–02Mar 2012 University of Nottingham (in Nottingham, UK);  
 28Mar–29Mar 2012 Newcastle University (in Newcastle upon Tyne, UK);  
 26Mar–27Mar 2012 University of St Andrews (in Scotland, UK);  
 1Feb–5Feb 2012 University of Madrid (in Madrid, Spain);  
 30Jan–31Jan 2012 Max–Planck for Quantum Optics (in Munich, Germany);  
 11Sep–10Oct 2011 University of British Columbia (in Vancouver, Canada);  
 20Mar–31Mar 2011 University of Innsbruck (in Innsbruck, Austria);  
 27Jan–19Feb 2011 Victoria University of Wellington (in Wellington, New Zealand);  
 20 Jan 2011 ICTP (in Trieste, Italy);  
 17–19 Jan 2011 Universite de Nice Sophia Antipolis (in Nice, France);  
 11–16 Dec 2010 Albert–Einstein Institute (in Berlin, Germany);  
 21–25 Nov 2010 University of Utrecht (in Utrecht, The Netherlands);  
 8 Oct 2010 King’s College, University of London (in London, UK);  
 7 Oct 2010 University of Southampton (in Southampton, UK);  
 6 Oct 2010 Queen Mary University of London (in London, UK);

5–11 Aug 2010 University of Alberta (in Edmonton, Canada);  
26Apr–4May 2010 University of Innsbruck (in Innsbruck, Austria);  
18–27 Jan 2010 Cambridge University (in Cambridge, UK);  
13–14 Jan 2010 Technical University of Munich (in Munich, Germany);  
12 Jan 2010 Ludwigs-Maximilian University (in Munich, Germany);  
11 Jan 2010 Max-Planck Institute for Quantum Optics (in Munich, Germany);  
18–20 Nov 2009 The Pennsylvania State University (in Pennsylvania, USA);  
12–15 Oct 2009 Albert–Einstein Institute (in Berlin, Germany);  
5–9 Oct 2009 International School for Advanced Studies (in Trieste, Italy);  
28Sep–1Oct 2009 Utrecht University (in Utrecht, The Netherlands);  
28Jan–17Feb 2009 Victoria University of Wellington (in Wellington, New Zealand);  
2–8 Nov 2008 Perimeter Institute (in Waterloo, Canada);  
9–22 Jun 2008 International School for Advanced Studies (in Trieste, Italy);  
12–22 Sep 2006 International School for Advanced Studies (in Trieste, Italy);  
9–16 May 2006 Australian National University (in Canberra, Australia);  
21–27 Feb 2006 Otago University (in Dunedin, New Zealand);