

# CURRICULUM VITAE

Date: 31.10.2017

## 1 Education, positions, funding and leadership

**Name:** Syksy Räsänen

**Gender:** Male

**Date and place of birth:** November 22, 1973, Helsinki, Finland

**Citizenship and residence:** Finnish, Finland

**Education and degrees:** Ph.D. in theoretical physics in September 2002 from the Department of Physical Sciences, University of Helsinki, Finland. (Topic of thesis: brane cosmology and the ekpyrotic scenario, supervisors prof. Kari Enqvist and Dr Esko Keski-Vakkuri.)

Master of Science in theoretical physics in December 1999 from the Department of Physics, University of Helsinki, Finland. (Topic of thesis: BRST symmetry approach to colour confinement, supervisors prof. Masud Chaichian and prof. Christofer Cronström.)

Adjunct professor (docent, dosentti) in theoretical physics at the University of Helsinki in Sep. 2010. Adjunct researcher at the Helsinki Institute of Physics since 2010.

**Native language:** Finnish

**Current position:** January 1 2016–: University researcher at Department of Physics, University of Helsinki. (Permanent position.)

### Previous positions

- Nov. 3 2016–Jan. 10 2017: Visiting professor at Physics Department, Kobe University.
- June 3 2010–Dec. 31 2014: Lecturer at Department of Physics, University of Helsinki.
- May 3 2010–May 28 2010: Visiting researcher at Laboratoire d'Annecy-le-Vieux de Physique Théorique (LAPTH).
- Apr. 16 2010–Apr. 30 2010: Visiting researcher at University of Chicago, Kavli Institute for Cosmological Physics.
- Mar. 1 2010–Apr. 15 2010: Postdoctoral research fellow at Washington University, Physics Department.
- Jan. 2010–Feb. 2010: Visiting researcher at CERN, Department of Physics, Theory Unit.
- Oct. 2007–Dec. 2009: Postdoctoral research fellow at the University of Geneva, Department of Theoretical Physics, Cosmology Group.
- Oct. 2005–Sep. 2007: Postdoctoral research fellow at CERN, Department of Physics, Theory Unit.
- Oct. 2002–Sep. 2005: Postdoctoral research fellow at the University of Oxford, Department of Physics, Sub-department of Theoretical Physics, Particle Theory Group.

### Research funding, leadership and supervision

Leader of the Helsinki Institute of Physics Theory Project “Cosmology of the Late Universe”, January 1 2014–December 31 2019. <http://research.hip.fi/hwp/cosmology/>

I am currently supervising one postdoctoral researcher, Francesco Montanari. I have supervised five Master's theses, two of which have been approved at the University of Pavia and three at the University of Helsinki, and I am currently supervising two. I have supervised one Ph.D. thesis, and I am currently supervising three.

## 2 Publications, teaching, talks and seminars

### Course-related teaching and summer schools

From 1996-2000, I was a teaching assistant at the University of Helsinki. In 1996, I participated in the making of *Kvanttimekaniikka II*, the first textbook in Finnish on advanced quantum mechanics. In 2003, I was a tutor at University of Oxford on mathematical methods and quantum mechanics. In 2007, I lectured the course Structure formation in the universe at the University of Jyväskylä, Finland. In 2008, I gave and supervised theoretical physics problems (travaux pratique de physique theorique IV) at the University of Geneva, and lectured at the Basel-Graz-Tubingen Graduate School, Blaubeuren, Germany. In 2008, I lectured at the IXème Ecole de Cosmologie CNRS at IESC in Cargese, France. In 2009, 2012 and 2015, I lectured at a summer school of the University of Helsinki, Finland. From 2010 to 2017, I have lectured courses Cosmology I, Cosmology II, Basics of relativity, Basics of quantum theory, General relativity and Physics for Poets at the University of Helsinki, Finland, Mathematical methods for physicists Ia and Ib, including writing course material and planning contents of the courses.

### Refereeing theses

I have served as an opponent at two Ph.D. thesis examinations and as a preliminary examiner for three Ph.D. theses. I am an approved Master's Thesis examiner in Denmark, and have served as an opponent for one Master's thesis at the Niels Bohr Institute.

### Awards and prizes

In 2014, I was awarded the J.V. Snellman prize by the University of Helsinki for communicating science to the public.

In 2001, I was awarded the Waldemar von Frenckell Foundation stipend for gifted students.

### Scientific publications

I have 35 refereed scientific publications (and 8 non-refereed papers, including conference proceedings and papers not yet published), 1554 citations, and an h-index of 21.

### Conference talks and seminars

I have given 40 conference talks. I have given 59 seminars during visits to 37 different universities and research institutes in 13 countries.

## 3 Other

### Public outreach

- I have given over 127 popular talks about physics and related issues, such as scientific publishing, aesthetics, ethics and philosophy of science. Audiences have included school students from 8 years on, school teachers, astronomy enthusiasts, university librarians, university students of

physics, theatre, fine art, media, arts and design, as well as artists, theatregoers, museumgoers, literary festival goers, and others. Venues have included CERN, the University of Fine Art in Trondheim, University of Helsinki and other universities, polytechnics, libraries, schools, art museums, a theatre and a circus, and others.

- I have written 22 popular articles related to science.
- From February 2015 to December 2016, I was the Department of Physics representative in the Faculty of Science communications team at the University of Helsinki.
- In 2016, I had a cameo role as a cosmologist in the play Automattokaupunki that debuted at Teatteri Takomo.
- In 2012 I scripted and presented (three times) a planetarium show about cosmology at the science center Heureka.
- I have co-scripted a circus show about the history of the universe with Davide Giovanzana. The show, Talvisirkus Kosmos, was produced by Tanssiteatteri Hurjaruuth and ran for 55 shows from November 2013 to January 2014. It was a commercial success, reaching tens of thousands of people.
- In 2012, I consulted on physics with the game company Remedy Entertainment for their game Quantum break, and with the publisher Gummerus on translation of physics terms. I have also consulted with Cohu Entertainment for the use of physics on educational games.
- From 2014 to 2015, I wrote a monthly science column for Helsingin Sanomat, the largest newspaper in Finland, for a total of 12 columns.
- From September 2013, I have written the popular physics blog Kosmokseen kirjoitettua, hosted by the astronomical society URSA, with at least two entries a month.
- From November 2007 to May 2013, I wrote the popular physics blog Maailmankaikkeutta etsimässä, hosted by the magazine Tiede, with at least two entries a month.
- My work has been featured in newspapers and popular science publications, including The New Scientist, Scientific American, Space.com and Tähdet ja avaruus. I am often interviewed by Finnish press, online, TV and radio media, including Helsingin Sanomat, Suomen Kuvalehti, Ylioppilaslehti, Libero, Yliopistolainen, Yliopisto, Prisma, Radio Rock and YLE.
- I am often asked for featured answers to questions on cosmology and particle physics sent by members of the public to different publications and fora, including Tähdet ja avaruus, Helsingin Sanomat and LUMA (<http://www.luma.fi/>).

## Other

- I am a member of the Euclid satellite project consortium. I belong to the theory working group and working package 5, “Deviations from Homogeneity and Isotropy”.
- I have refereed for the journals Astrophysical Journal, Classical and Quantum Gravity, Europhysics Letters, Foundations of physics, General Relativity and Gravitation, International Journal of Modern Physics D, International Journal of Theoretical Physics, Journal of Cosmology and Astroparticle Physics, Monthly Notices of the Royal Astronomical Society, Physica Scripta, Physics Letters B, Physical Review D, Physical Review Letters, Tiedepolitiikka, as well as for Scholarpedia.
- In 2015, I served on the evaluation committee for the University of Helsinki three-year research grants. I have also evaluated grant proposals for the Estonian Research Council, Polish National Science Council and Royal Society.

- I was a member of the organising committee of Physics Days, Finland's annual physics conference, in 2016 and 2017. In 2012 and 2015, I co-organised a cosmology summer school for students from the University of Helsinki and the University of Jyväskylä. In 2014, I was a member of the organising committee of Kari Enqvist's 60th birthday conference at the University of Helsinki. In 2011, I was a member of the organising committee of the Inhomogeneous cosmologies workshop held at the University of Jyväskylä.
- From March 2015 to the end of 2016 I was the Department of Physics representative in the Faculty of Science communications group.
- In 2015, I was a member of the Visio400 group tasked with shaping and articulating the vision of the University of Helsinki for the next 25 years.
- From 2011 to 2014, I was a member of HS-raati, a group of people from culture and science who provided commentary for Helsingin Sanomat, the largest newspaper in Finland.
- From 2010 to 2011, I was an editor of the CosmoCoffee cosmology discussion forum, <http://cosmocoffee.info> .