

CURRICULUM VITAE

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1 Personal details

Name: Syksy Räsänen

Research identifier: <https://orcid.org/0000-0003-2296-302X>

Year of birth and nationality: 1973, Finnish

Website: <https://www.mv.helsinki.fi/home/syrasane/>

1.1 Education and degrees

- **September 2010: docent (dosentti).** Theoretical physics, University of Helsinki, Finland.
- **October 2002: Ph.D..** Theoretical physics, University of Helsinki, Finland. Thesis: *Topics in brane cosmology*. Supervisors: Prof. Kari Enqvist and Dr Esko Keski-Vakkuri.
- **December 1999: Master of Science.** Theoretical physics, University of Helsinki, Finland. Thesis: *BRST Symmetry and the Confinement Problem*. Supervisors: Prof. Masud Chaichian and Prof. Christofer Cronström.

1.2 Current positions

- **Aug. 2022–: Senior Researcher.** Department of Physics, University of Helsinki, Finland. (Permanent.) (From Jan. 2015 to Jul. 2022 as University Researcher, also permanent position.)
- **2010–: Adjunct Researcher.** Helsinki Institute of Physics, University of Helsinki, Finland.

1.3 Previous positions

- **June 3 2010–Dec. 31 2014: Lecturer.** Department of Physics, University of Helsinki, Finland.
- **May 3 2010–May 28 2010: Visiting Researcher.** Laboratoire d’Annecy-le-Vieux de Physique Théorique (LAPTH), France.
- **Apr. 16 2010–Apr. 30 2010: Visiting Researcher.** University of Chicago, Kavli Institute for Cosmological Physics, United States.
- **Mar. 1 2010–Apr. 15 2010: Postdoc.** Washington University, Physics Department, United States.
- **Jan. 2010–Feb. 2010: Visiting Researcher.** CERN, Department of Physics, Theory Unit, Switzerland.
- **Oct. 2007–Dec. 2009: Postdoc.** University of Geneva, Department of Theoretical Physics, Cosmology Group, Switzerland.
- **Oct. 2005–Sep. 2007: Postdoc.** CERN, Department of Physics, Theory Unit, Switzerland.
- **Oct. 2002–Sep. 2005: Postdoc.** University of Oxford, Department of Physics, Theoretical Physics, Particle Theory Group, UK.

Visiting positions (concurrently with the positions in Helsinki)

- **Sep. 1 2018–Jan. 4 2019: Volunteering Professor.** Department of Physics, Birzeit University, Palestine.

- **Nov. 3 2016–Jan. 10 2017: Visiting Professor.** Physics Department, Kobe University, Japan.

1.4 Grants and leadership

- **Jan. 1 2014–Dec. 31 2019: Leader of the Helsinki Institute of Physics Theory Project *Cosmology of the Late Universe*,** supervising 3 postdocs and 5 PhD students.¹ Grant value: €110 000 to €120 000 per year for 6 years.
- **Aug. 1 2017–Dec. 31 2018: University of Helsinki Faculty of Science support funding.** Grant value: €30 000.

1.5 Publications and talks

- **57 published peer-reviewed scientific articles in leading physics journals, including Physics Review Letters, JCAP, JHEP, Nuclear Physics B, and Physical Review D,** and 5 conference proceedings and other non-refereed scientific articles.
- **49 conference talks and 77 seminars.**

1.6 Other key academic merits

- **2012–:** Member of the **Euclid cosmology consortium**, in the inhomogeneities working group.²
- **2024–:** Member of the board that decides on the use of an annual cosmology grant at the Department of Physics at the University of Helsinki.
- **2023:** Member of the teaching skill assessment committee at the Faculty of Science of the University of Helsinki.
- **2015 and 2019:** Member of the grant evaluation committee for University of Helsinki three-year grants.
- **2018:** Co-drafted and publicised the **Statement by Finnish Astronomers and Astrophysicists on Harassment**, which gathered a large number of signatories from the community, including most people in leadership positions, and was endorsed by the Finnish Astronomical Union.³
- **2015–2016:** Department of Physics representative in the **Faculty of Science communication team** at the University of Helsinki.
- **2015:** Member of the **Visio400 group** tasked by the rector of the University of Helsinki to shape and articulate the vision of the university for the next 25 years.
- **2010–2011:** An editor of the **CosmoCoffee forum**.⁴
- **Evaluated grant proposals** for the Estonian Research Council, National Research Foundation of South Africa, Polish National Science Council, and the United Kingdom’s Royal Society.
- **Opponent at 4 Ph.D. thesis examinations, examiner of 2 Licenciante’s theses, preliminary examiner of 3 Ph.D. theses.** Approved Master’s Thesis examiner in Denmark, opponent of 1 Master’s thesis at Niels Bohr Institute in Denmark and 1 at École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland.
- **Refereed for 15 scientific journals.**

¹<https://www.hip.fi/cosmology-of-the-early-and-late-universe/>

²https://www.esa.int/Science_Exploration/Space_Science/Euclid

³<https://goo.gl/LJ4GC6>

⁴<http://cosmocoffee.info>

- **Advocated for open access publishing.** Have given invited talks and written pieces about the importance of open access publishing to university staff, librarians, people working on scientific publishing, and others, most recently in 2025 on the University of Helsinki Think Open blog.⁵

1.7 Awards

- **2014: J.V. Snellman prize.** Awarded by the University of Helsinki for science outreach.
- **2001: Waldemar von Frenckell Foundation stipend.** Awarded to gifted students.

1.8 Organising scientific meetings

- **2025: Co-organiser of the Second Nordic Cosmology Meeting** at University of Helsinki, Finland.
- **2012, 2015, 2018, and 2024: Co-organiser of cosmology summer school** for students from University of Helsinki and University of Jyväskylä.
- **2016 and 2017: Member of the organising committee of Physics Days**, Finland's annual physics conference.
- **2014: Co-organiser of Kari Enqvist's 60th birthday conference** at University of Helsinki, Finland.
- **2011: Co-organiser of the Inhomogeneous Cosmologies Workshop** at University of Jyväskylä, Finland.

1.9 Teaching and supervision

- **Supervised 6 Bachelor's theses, 10 Master's theses, and 4 PhD theses.** Currently supervising 2 Bachelor's theses, 2 Master's theses, 1 Licentiate thesis, and 2 PhD theses.
- **10 credits of pedagogical studies at the University of Helsinki.**
- **2007 to 2025: lectured 10 different physics courses (several of them several times) from bachelor to PhD level at University of Helsinki, University of Jyväskylä and Birzeit University.** Planned courses and wrote materials, including lecture notes and problems that were made freely available online. Lectured at 6 summer schools in Finland, France, and Germany. From 1996 to 2008, teaching assistant and tutor on several physics courses and supervised student physics projects at the University of Helsinki, University of Oxford, and University of Geneva.
- **1996: Helped in the making of *Kvanttimekaniikka II*,** the first textbook in Finnish on advanced quantum mechanics.

1.10 Outreach

- **Have given at least 204 popular talks on science** to a wide range of audiences, including schoolchildren from the age of 8 up, high school groups, museum and science centre visitors, artists, teachers, and students of film, design, arts and other non-STEM subjects. For several years, have lectured the course Physics for Poets on relativity and quantum physics to non-STEM audiences at the University of Helsinki, including students of humanities, linguistics, theology, and other subjects.
- **Published 50 popular science articles.**

⁵<https://blogs.helsinki.fi/thinkopen/future-of-scientific-publishing-commentary/>

- **Sep. 2013–:** Have written a popular physics blog hosted by the astronomical society Ursa, with more than 330 entries, with at least two long posts per month. (Not included in the number of popular articles given above.)
- **2014–2015:** Wrote a monthly science column for *Helsingin Sanomat*, the largest newspaper in Finland. (Included in the number of popular articles given above.)
- **Nov. 2007–May 2013:** Wrote a popular physics blog hosted by the popular science magazine *Tiede*, with more than 150 entries, with at least two long posts per month. (Not included in the number of popular articles given above.)
- **Over 130 interviews and appearances on TV and radio programs and podcasts about science.** Details in the Tuhat database.⁶
- **2016:** Cameo role as a cosmologist in the play *Automattokaupunki* at Teatteri Takomo.
- **2013:** Co-wrote the circus show *Talvisirkus Kosmos* about the history of the universe for Tanssiteatteri Hurjaruuth.
- **2012:** Scripted and twice presented a planetarium show about cosmology at science centre Heureka.
- **Consulted on physics:** in 2012, 2018, 2022, and 2025 with the publishers Gummerus, Siltala, Tammi, and Teos; in 2012 with the game company Remedy Entertainment for the game *Quantum Break*; and with the company Cohu Entertainment on the use of physics in educational games.
- **Have provided featured answers to questions on cosmology and particle physics** sent by members of the public to different publications and fora, including the popular astronomy magazine *Tähdet ja avaruus*, Finland’s largest newspaper *Helsingin Sanomat*, and Finnish universities’ science education network LUMA.
- **2011–2014:** Member of **HS-raati**, a group of people from culture and science providing topical commentary for *Helsingin Sanomat*, Finland’s largest newspaper.

⁶<https://researchportal.helsinki.fi/en/persons/syksy-r%C3%A4s%C3%A4nen>