

Kari Rummukainen CURRICULUM VITAE

Full Name: Kari Olavi Rummukainen
Date of birth: January 14, 1962

Education: MSc in theoretical physics, University of Helsinki, September 1987
PhD in theoretical physics, University of Helsinki, September 1990
Docent in theoretical physics, University of Helsinki, January 1994.

Present Position:

Professor of theoretical physics, Department of Physics (from 7/2009) *and*
Theory programme leader, Helsinki Institute of Physics (from 1/2011)
University of Helsinki

Previous professional appointments:

- Professor of theoretical physics, University of Oulu, 8/2003 – 7/2009
- Staff member, CERN Theory Division, 8/2003 – 7/2006
- Senior Lecturer, University of Helsinki, Finland, 1/2002 – 7/2003
- Assistant Professor, Nordita, 10/1997 – 8/2002
- European Union Research Fellow,
Bielefeld University, Germany, 10/1996 – 9/1997
- Postdoctoral scientist, Indiana University, 10/1993 – 9/1996
- Research Fellow, Theory Division, CERN, 10/1991 – 9/1993

Scientific administrative positions

- Finnish representative of ECFA (European committee for future accelerators), 10/2011–
- Theory programme leader, Helsinki Institute of Physics, 1/2011–
- Theoretical physics teaching unit leader, University of Helsinki, 1/2010–
- Vice department head, Department of Physics, University of Oulu, 11/2008–7/2009
- Head of the board for the development of the teaching program, Department of Physics, University of Oulu, 11/2008–7/2009
- LAGUNA Pro, member of the steering board, 2011–
- Oulu Southern Institute, member of the steering board, 2007–2009
- Center of the Underground Physics, Pyhäsalmi, member of the steering board, 2006–
- Head of the theoretical physics unit, University of Oulu, 2007–2009

Major research grants

- Research project *New physics on the lattice in the LHC era*, Academy of Finland, 2010–2013. Provides salary for a postdoc and 2 PhD students.
- Research school collaborative grant *Particle Physics and Cosmology (PACO)*, 2009–2011. Collaborative PhD training grant between Bielefeld and Helsinki, funded by the Academy of Finland and DFG.
- Research project *Simulations of hot QCD*, Academy of Finland, 2007–2009. Provides salary for a Postdoc and for 2 PhD students.
- Visitor grant for Prof. Mikko Laine, 1.3.2008–31.9.2008, to Oulu, Finland, Academy of Finland
- Research project *Standard Model in extreme environments*, Academy of Finland, 2004–2006. Provides salary for a postdoc and a PhD student.
- DEISA Extreme Computing initiative 2007: HDM, hot and dense matter.
- DEISA Extreme Computing initiative 2009: TecLat, Technicolor on the lattice. Substantial supercomputing time allocation. 1800000 standardized cpu-hours.

Thesis advisor

Previous PhD students:

- Ari Hietanen, University of Helsinki, 25.4.2008
- Petri Mutka, University of Oulu, 13.11.2009
- Janne Kuokkanen, University of Oulu, 10.12.2011
- Jarno Rantaharju, University of Helsinki, 6.7.2012

Number of current PhD students: 6

MSc theses: 12 theses 2000–2012

Scientific expert tasks

Faculty position evaluation board membership

- November 2012: evaluating committee for a professorship position, University of Odense
- October 2011: evaluating committee for lectureship position, University of Odense
- February 2011: evaluation committee for professorship (W1) position, Frankfurt.
- Spring 2007: evaluation committee for lectureship position, University of Oulu, Finland.
- September – December 2004: evaluation committee for 2 assistant professorship positions at Trondheim, Norway.

Review of scientific grant applications:

- Jan 2013: Review of Estonian science prize application
- Sept 2012: Review of large supercomputing grants for STFC
- July 2012: Review of PRACE Tier-0 supercomputing grant applications
- May 2012: South Africa's National Research Foundation
- 2011: Review of PRACE computational science grant applications (2 times)
- 2009-11: Faculty of Sciences research projects, University of Helsinki (3 times)
- May 2011: Swiss National Science Foundation
- March 2009: review of grant application for Israel Science Foundation
- 2007-8: Research council of Norway (2 times)
- June 2008: Expert member on the committee meeting on establishing a computational science program for the Academy of Finland
- March 2008: Member of the Academy of Finland physics task group
- May 2007: ETH Zurich Research Commission
- October 2006: Research Council of Norway
- May 2006: Centre for Advanced Study of the Norwegian Academy of Science and Letters
- October 2003: review of PPARC research grants.
- January 2003, Academy of Finland: member of the physical sciences review board.
- February 2001, Academy of Finland: ranking of the applications for senior researcher grants and postdoctoral position grants in the fields of particle and nuclear physics.
- March 2001, Netherlands Organization for Scientific Research (NWO)

International conference advisory board membership:

- Conference series “Strong and Electroweak Matter”, 1998–present
- Conference “Lattice 2013”
- Conference “Extreme QCD 2013”

Other expert tasks:

- August 2002 – May 2006: Member of the particle physics fellowship selection committee, NOR-DITA

- Refereeing papers submitted to Physical Review Letters, Physical Review D and A, Journal of High Energy Physics, Nuclear Physics B and Physics letters B
- Editor of the *Proceedings of the international conference “Strong and Electroweak Matter ’98”*, eds. K. Rummukainen, J. Ambjørn, P.H. Damgaard and K. Kainulainen. World Scientific, Singapore (1999)
- Editor of the *Proceedings of the international conference “Strong and Electroweak Matter ’04”*, eds. K.J.Eskola, K. Kainulainen, K. Kajantie and K. Rummukainen. World Scientific, Singapore (2005)

PhD examiner:

- Paula Perez Rubio, “Schrödinger functional with staggered quarks” Universidad Autonoma de Madrid (UAM), 1.9.2010
- Fatih Tekin, “Running coupling with four flavours of dynamical fermions”, Humboldt University, Berlin, Germany, 8.9.2010.
- Liam Keegan, “Conformal window on the lattice”, University of Edinburgh, 28.6.2011
- Dirk Hesse, “Automated lattice perturbation theory in the Schrödinger functional” Humboldt University, 14.6.2012

Doctoral thesis review: 13 theses, 2002–12

Conference organisation

1. Chair, symposium “Hot non-perturbative particle physics”, Copenhagen, April 24–25, 1998.
2. Chair, conference “Strong and Electroweak Matter ’98”, Copenhagen, December 2–5 1998.
3. Co-organizer of the PhD school “Nordic winter school on particle physics and cosmology”, Gausdal, Norway, January 2–8 1999.
4. Convener of the session “Non-perturbative physics” in the International Europhysics conference HEP99, Tampere, Finland, 15-21 July 1999.
5. Chair, symposium “Hot non-perturbative particle physics II”, Copenhagen, Oct. 15–16 1999.
6. Co-organizer of the 23rd Triangle Meeting, 18–22 June 2000, Copenhagen.
7. Chair, symposium “Particle physics at high temperatures”, Oct. 28 2000, Trondheim, Norway.
8. Main organizer of the PhD school “2nd Nordic winter school on particle physics and cosmology”, Gausdal, Norway, January 6–12 2001.
9. Co-organizer, meeting “Theoretical Particle Physics and Cosmology,” Copenhagen, Denmark, January 25–26 2002.
10. Main organizer of the PhD school “3rd winter school on particle physics and cosmology”, Gausdal, Norway, January 4–10 2003.
11. Chair, conference “Strong and Electroweak Matter 2004”, Helsinki, June 16–19 2004.
12. Convener of the session “Non-perturbative field theory”, HEPP2005, EPS international high-energy particle physics conference, Lisbon, Portugal 21–27 July 2005.
13. Co-organizer of the “15th Nordic meeting on intermediate and high-energy nuclear physics”, Gräftavallen, Sweden, January 4–9 2005.
14. Chair, 20th Nordic particle physics “Spaating meeting”, Spaating, Norway, January 2–7 2008.
15. Chair, “Workshop on hot and dense QCD”, Oulu, Finland, June 26-28, 2008.
16. Co-chair, “NORDITA Workshop on Electroweak baryogenesis”, Nordita, Stockholm, June 17- July 31 2009.
17. Chair, PhD school on “Physics of strongly interacting field theories” University of Helsinki, Finland, October 25-29, 2010.
18. “Physics Days 2011”, 29–31.3 2011, Helsinki. Member of the LOC.
19. “Nordic winter school on particle physics and cosmology”, Gausdal, Norway, January 2–7 2013.
20. Workshop “Holographic Methods for Strongly Coupled Systems”, 4–8.3.2013

Scientific networks and projects

1. LAGUNA-LBNO, EU FP7 Collaborative project, 2011-2014.
2. Leader, Finnish-German researcher training program on particle physics and cosmology: PACO, 2009 – 2011
3. EU I3 network *Hadron physics 2*, 2009 – 2011.
4. Nordforsk network *Particle physics and cosmology – two sides of one coin*, 2008 – 2011
5. NorFA project *Theoretical Particle Physics and Cosmology*, 2002 – 2006.
6. Nordic project “Hot non-perturbative particle physics”, 1998 – 2000, funded by NORDITA.
7. EU TMR research network “Electron Scattering Off Confined Partons” 1999 – 2002.
8. EU TMR research network “Finite temperature phase transitions in particle physics” December 1997 – March 2001.
9. NorFA (Nordic research foundation) project *Standard Model in Extreme Environments*, 1997 – 1999.

Membership in scientific societies

Finnish Physical Society, European Physical Society
Finnish Academy of Science and Letters

Prizes

Finnish Academy of Sciences and Letters: 2006 Väisälä Prize.
Best teacher prize, Department of Physics, 2002 and 2011.

Publication record:

- 149 scientific publications (1/2013)
- 5689 citations in inSPIRE database (<http://inspirehep.net/author/K.Rummukainen.1/>).
- Hirsch h-index 40
- 4 papers with more than 250 citations; 22 papers with more than 100.