

# Curriculum vitæ

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Born October 25th 1978 in Suonenjoki, Finland. Finnish citizen. Married, two children.

## Positions held

- University of Jyväskylä, Jan 2009 – present. *Details of position: Postdoctoral researcher of the Academy of Finland (project no. 126604) Jan 2009 – Dec 2011, of which on extended stay at IPhT, CEA/Saclay Jan 2009 – Aug 2009. Research scientist (different Academy of Finland research grants) Jan 2012— Dec 2016.*
- Postdoctoral researcher at Institut de Physique Théorique (IPhT, formerly SPhT), Commissariat à l'Énergie Atomique (CEA), Saclay, France, Oct 2007 – Dec 2008.
- Research Assistant at Brookhaven National Laboratory, Upton, NY, USA, Nuclear Theory Group, Oct 2005 – Sep 2007.
- Graduate student at University of Helsinki, autumn 2001–spring 2005. *Details of position: employed as research assistant at the Division of Theoretical Physics, 2001, and at the Helsinki Institute of Physics, spring 2002. Funded by personal scholarships from the Finnish Cultural Foundation and the Magnus Ehrnrooth foundation, July 2002 – September 2005.*
- Research Assistant (computational condensed matter physics), Physics laboratory, Helsinki University of Technology, summer 1999.
- Sonera Corp. (former Telecom Finland), summer 1998.

## Degrees

- *PhD* in theoretical physics at the University of Helsinki, January 28th 2005. Thesis “Classical chromodynamics and heavy ion collisions,” hep-ph/0505095, opponent Dr. J.-P. Blaizot, supervisor prof. K. Kajantie.
- *MSc* at the University of Helsinki, September 14th 2001. Master’s thesis on “Classical fields in relativistic heavy ion collisions”, advisor prof. Keijo Kajantie. Major subject: theoretical physics. Minor subjects: mathematics, computer science and physics. Degree includes studies of theoretical physics (DEA de physique théorique) at Ecole Normale Supérieure, Paris, France, 1999 – 2000.
- Graduated from Suonenjoki high school in May 1997.

## Honorary titles

- Docent (Adjunct professor) at University of Jyväskylä, August 25th 2010.

## Other qualifications

- Basics of University Pedagogy, 10 ECTS credits, spring 2012. Basic course satisfying the formal requirements for University teaching positions, organized by the Faculty of Education, University of Jyväskylä.
- Teaching demonstration for adjunct professor (docent) position, University of Jyväskylä June 18th, 2010, evaluated as 4/5 (very good).

## Teaching

### Courses

- Spring 2012 & 2013 (Jyväskylä): Statistical Physics A (FYSA241), lectures 20h + 20h.
- Autumn 2011 (Jyväskylä), Particle Physics (FYSH300), lectures 24h.
- Spring 2011 (Jyväskylä) "High energy scattering in QCD" (special graduate course, FYSH560), lectures 28h and exercises 14h.
- Spring 2010 (Jyväskylä): Mathematical methods of physics II (FYSA200), lectures, 28h.
- Spring 2005 (Helsinki): Hydrodynamics, exercises, 22h.
- Autumn 2002 (Helsinki): Many body physics, exercises, 24h.
- Spring 2001 (Helsinki): Statistical physics I, exercises, 48h.
- Autumn 2000 (Helsinki): Quantum Mechanics I, exercises, 52h.

### Invited lectures

- September 2008, lectures at school on "Initial Conditions in Heavy-Ion Collisions," Goa, India.
- January 2012, lectures on "High energy scattering in QCD," Stellenbosch Institute of Advanced Studies / University of Cape Town, South Africa.

### Other

- Science lectures and presentations of particle physics research to high school students, 6 lectures, autumn 2010 —.

## Supervision

### Students supervised

- H. Mäntysaari, University of Jyväskylä: BSc thesis 2010, MSc thesis 2011, PhD thesis ongoing.
- P. Pöyhönen, University of Jyväskylä: MSc thesis ongoing.
- J. Peuron, University of Jyväskylä: BSc thesis 2012, MSc thesis ongoing.

- L. Laulumaa, University of Jyväskylä: BSc thesis ongoing.
- Participated, although not in a formal supervisor role, in overseeing the thesis work of S. Srednyak (SUNY Stony Brook) and C. Gombeaud (CEA/Saclay, PhD 2010).

### Theses reviewed

- A. Mykkänen, PhD thesis, University of Helsinki 2012; external referee.
- J. Alanen, PhD thesis, University of Helsinki 2012; external referee.
- J. Kuokkanen, PhD thesis, University of Oulu 2011; opponent in dissertation.
- S. Kurki, PhD thesis, University of Helsinki 2011; external referee.
- R. Paatelainen, MSc thesis, University of Jyväskylä 2010; evaluator.
- V. Muhonen, PhD thesis, University of Helsinki 2008; external referee.

## Organization

### Conferences, workshops

- Chair of organizing committee for POETIC (Physics Opportunities at an Electron-Ion Collider) workshop, Jyväskylä, Finland, September 2013.
- Co-convenor of Heavy-Ion session for "Elastic and Diffractive scattering, (EDS Blois 2013)", Saariselkä, Finland, September 2013

### Schools

- Coordinator for 3 courses in the Jyväskylä international summerschool, 2012. F. Gelis: "*High Energy Scattering in QCD*", W. Horowitz: "*pQCD Calculations of Parton Energy Loss in a Quark-Gluon Plasma*" and B. Schenke: "*Relativistic Hydrodynamics in Heavy Ion Collisions*".

## Research funding

- Grants for organizing workshop in 2013: Magnus Ehrnrooth foundation €5000 and Federation of Finnish Learned Societies €3000.
- "Strengthening the competitiveness of ERC applicants" call, Academy of Finland, 12 mo 2011–2012, €119 400.
- European Research Council Starting Grants 2010 and 2012; advanced to second evaluation round and passed quality threshold (but not funded). In 2012 evaluated in ranking range 54%-56% in panel PE2 (particle and nuclear physics); applications ranked 1%-48% on the second round were funded.
- "Postdoctoral researcher's project," Academy of Finland, 2009–2011, €195 450.
- Travel grants from Magnus Ehrnrooth foundation (2003: €1800; 2005: €2100 and €1200; 2006: €2000; 2007: €2200; 2008: €1200)
- Graduate student scholarships from Finnish Cultural Foundation (2002: €13 500; 2003: €14 000 and 2004: €14 000) and Magnus Ehrnrooth foundation (2003: €14 400).

## Scientific expert and administrative positions

- Referee for Phys. Rev. Lett., Phys. Rev. D, Phys. Rev. C and Nucl. Phys. A.
- Center for Scientific Computing, Espoo, Finland, manager for project "JYY2580, High energy QCD in relativistic heavy ion collisions", November 2009 –
- Chair of the nuclear physics seminar committee 2007, BNL physics department.
- Student vice-representative in the Board of the Department of Physical Sciences, University of Helsinki, 2001–2003.

## Misc.

- Various activities at the Nation of Savo (organisation of students from the province of Savo) of the University of Helsinki, including Treasurer 2001–2002.
- Member of the Representative Council of the Student Union of the University of Helsinki (HYY), 2002–2003.
- Representative for Finland in the International Physics Olympiad, Sudbury, Canada, 1997, bronze medal.

## Invited conference talks and colloquia

1. March 2013, "Physics Opportunities at an Electron-Ion Collider" workshop, UTFSM, Valparaíso, Chile, invited talk on "Diffractive studies at EIC".
2. November 2011, "Multiple parton interactions 2011" conference, DESY, Hamburg, Germany, invited talk on "Multi-gluon correlations in the Color Glass Condensate".
3. November 2010, "Structure Functions, Geometric Scaling and Parton Saturation: Assessment and Perspectives for the LHC" workshop, GSI, Darmstadt, Germany, talk on "Multigluon correlations in the Glasma."
4. August 2010, "High energy strong interactions 2010" symposium, Yukawa institute of theoretical physics, Kyoto University, Japan, talk on "Gluon correlations in the Glasma".
5. October 2009, MIT, Cambridge, MA, USA, Particle and Nuclear Physics colloquium on "Understanding saturation and AA collisions with an eA collider"
6. June 2009, "International Conference on Elastic and Diffractive Scattering (Blois Workshop)," CERN, Geneva, Switzerland, invited talk on "Saturation in Nuclei".
7. June 2009, "Workshop on Non-Perturbative Quantum Chromodynamics", Paris, France, invited talk on "Saturation at RHIC and LHC".
8. April 2009, "Deep Inelastic Scattering 2009" conference, Madrid, Spain; invited talk on "Nuclear enhancement and suppression of diffractive structure functions at high energies".
9. April 2009, Quark Matter 2009, Knoxville, TN, invited plenary talk on "Understanding saturation and AA collisions with an eA collider".
10. January 2009, XV Epiphany Conference on "Hadronic Interactions at the dawn of LHC" Cracow, Poland, invited talk on "Initial conditions of heavy ion collisions and high energy factorization."
11. November 2008, "Particles and Nuclei International Conference", Eilat, Israel, invited talk on "Initial conditions and small  $x$ ."

12. September 2008, "International Symposium on Very High Energy Cosmic Ray Interactions," Paris, France, invited talk on "RHIC data and small  $x$  physics."
13. July 2006, Classical field theory and solitons workshop, Cambridge, UK, invited talk on "Classical fields and heavy ion phenomenology."
14. March 2006, Strangeness in Quark Matter conference, Los Angeles, CA, invited talk on "Chemical composition of the decaying glasma."
15. June 2004, Helsinki, "Strong and Electroweak Matter 2004" conference, invited talk: "Classical fields and heavy ion collisions."

## Other talks

1. April 2013, Jyväskylä, Finland, URHIC seminar on "The running coupling in the JIMWLK equation"
2. March 2013, Physics Days (Finnish Physical Society general meeting), Espoo, Finland, talk on "Langevin formulation of renormalization group evolution in high energy QCD"
3. November 2012, Jyväskylä, Finland, FysikerFest (AGM of Finnish physics students), lecture on "Chromodynamics under extreme conditions".
4. October 2012, Center for Scientific computing, Espoo, Finland, Workshop on "High performance computing in particle and nuclear physics", talk on "High performance computing in heavy ion collisions and high energy QCD"
5. August 2012, Quark Matter 2012, Washington DC, USA, talk on "Multigluon correlations in the color glass condensate"
6. June 2012, IPhT, CEA/Saclay, France, seminar on "Unequal rapidity correlations in JIMWLK"
7. May 2012, Hard Probes 2012 conference, Cagliari, Italy, talk on "Multigluon correlations in JIMWLK"
8. March 2012, Santiago de Compostela, Spain, seminar on "Multigluon correlations in the color Glass condensate"
9. February 2012, Stellenbosch, South Africa, "Exploring QCD frontiers from RHIC and LHC to EIC" workshop, "Multigluon correlations in the color Glass condensate"
10. December 2011, Oulu, Finland, seminar on "Classical color fields and heavy ion collisions".
11. October 2011, Particle Physics Day of the Finnish Physical Society, Helsinki. Talk on "Renormalization group evolution of multi-gluon correlators in high energy QCD"
12. March 2011, Physics Days (Finnish Physical Society general meeting), Helsinki. Talk on "The Glasma initial state of a heavy ion collision"
13. September 2010, "Gluons and the quark sea at high energies: distributions, polarization, tomography" program, INT, Seattle, WA. Two talks on "Diffraction in nuclei" and "Small  $x$  in ep and eA, theory overview."
14. June 2010, "Hot Quarks 2010" workshop, La Londe-les-Maures, France, talk on "Gluon correlations in the Glasma".
15. June 2010, "Quantifying the Properties of Hot QCD Matter" program, INT, Seattle, WA, USA, talk on "Rapidity correlations from the Glasma initial state".
16. May 2010, "Saturation, the Color Glass Condensate and Glasma" workshop, RIKEN BNL Research center, Brookhaven, NY, USA, talk on "Multiplicity distributions and long range rapidity correlations".

17. November 2009, University of Santiago de Compostela, Spain, seminar on "Gluon correlations in the Glasma".
18. October 2009, "Physics at a High Energy Electron Ion Collider" workshop, INT, Seattle, WA, USA. Talk on "Inclusive diffraction in nuclei".
19. February 2009, University of Jyväskylä, Department of Physics and University of Helsinki and Helsinki Institute of Physics, seminar on "Initial conditions of heavy ion collisions and high energy factorization".
20. September 2008, lectures on "Initial Conditions in Heavy-Ion Collisions," Goa, India.
21. August 2008, "Strong and Electroweak Matter 2008" conference, Amsterdam, the Netherlands, talk on "The glasma initial state and JIMWLK factorization".
22. August 2008, University of Jyväskylä, seminar on "Diffraction in Nuclei"
23. July 2008, ECT\*, Trento, Italy, "Structure of hadrons and nuclei at an electron-ion collide"-workshop, talk on "Inclusive diffraction in Nuclei"
24. March 2008, IPN Orsay, France, seminar on "The glasma initial state of heavy ion collisions"
25. February 2008, Quark Matter 2008, Jaipur, India, contributed talk on "The glasma initial state at LHC"
26. December 2007, University of Jyväskylä, Particle Physics Day of the Finnish Physical Society, talk on "Color glass and glasma: the initial state of a relativistic heavy ion collision"
27. December 2007, University of Helsinki, seminar "The initial state of the little bang at RHIC and LHC"
28. October 2007, CEA/Saclay, Paris, France, seminar on "The glasma initial state at RHIC and LHC."
29. July 2007, Workshop on Early Time Dynamics of Heavy Ion Collisions, McGill University, Montreal, Canada, talk on "The glasma initial stage of heavy ion collisions"
30. June 2007, RHIC/AGS user's meeting, Brookhaven, talk on "Eccentricity and elliptic flow"
31. April 2007, Electron-Ion Collider collaboration meeting, MIT, Cambridge, MA, talk on "The Oomph factor in eA: the A-dependence of the saturation scale."
32. November 2006, Stony Brook University, seminar on "From color glass to glasma and plasma."
33. October 2006, McGill University, Montreal, Canada, seminar on "From color glass to glasma and plasma."
34. September 2006, Workshop on Non-Equilibrium Quark-Gluon Plasma, INT Seattle, WA, talk on "From color glass to glasma and plasma."
35. July 2006, CEA/Saclay, Paris, France, talk on "From color glass to glasma and plasma."
36. June 2006, RHIC/AGS user's meeting, Brookhaven, talk on "From Glasma to Hadrons."
37. April 2006, Jyväskylä, seminar on "From Glass to Glasma."
38. February 2006, RIKEN seminar, Brookhaven, talk on "Quark pairs from classical fields."
39. October 2005, "Particles and Nuclei International Conference", Santa Fe, NM, talk on "Quark pair production from classical fields in heavy ion collisions."

40. August 2005, Quark Gluon Plasma Thermalization workshop, Vienna, Austria, talk on "Production of quark pairs from classical gluon fields."
41. August 2005, Quark Matter 2005, Budapest, Hungary, contributed talk on "Quark-antiquark production from classical fields and chemical equilibration."
42. May 2005, University of Jyväskylä, talk on "Quark antiquark pair production in the classical field model."
43. January 2005, Duke University, Durham, NC; Ohio State University, Columbus, OH and Brookhaven National Laboratory, Upton, NY: talk on "Particle production in the classical field model for heavy ion collisions."
44. October 2004, University of Helsinki, High energy physics phenomenology seminar: "Saturation in deep inelastic scattering."
45. February 2004, University of Helsinki, High energy physics phenomenology seminar: "News from Quark Matter 2004."
46. October 2003, CEA/Saclay, Paris, France: "Particle production in the classical field model for heavy ion collisions."
47. June 2003, ECT\*, Trento, Italy: "Color Glass Condensate and Parton Percolation"–workshop: "Classical field simulations of heavy ion collisions."
48. April 2003, University of Jyväskylä, Department of Physics: "Classical fields in heavy ion collisions."
49. March 2003, University of Helsinki, High energy physics phenomenology seminar: "Classical fields in heavy ion collisions."
50. October 2002, ECT\*, Trento, Italy: "Coherent Effects at RHIC and LHC: Initial Conditions and Hard Probes"–workshop: "Numerical Consequences of the McLerran-Venugopalan Model."
51. May 2002, University of Jyväskylä, Department of Physics: "Classical Chromodynamics Simulations of Relativistic Heavy-Ion Collisions."