

Curriculum Vitae

Joosep Pata

Date of Birth:	24.05.1990	Place of Residence:	Zürich, Switzerland
Place of Birth:	Tartu, Estonia	Work Address:	Institute of Particle Physics, HPK E29, Otto-Stern-Weg 5, 8093 Zürich, Switzerland
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Education

2014-2017, doctoral studies, Swiss Federal Institute of Technology in Zürich (ETHz), Institute of Particle Physics, group of prof. Dissertori, thesis title "Search for the production of Higgs bosons in association with top quark pairs" (*in progress*)

2012-2014, MSci, University of Tartu, Estonia, physics (field theory), thesis title "Measurement of top quark polarization in t-channel single-top production at CMS", *cum laude*

2008-2012, BSc, University of Tartu, Estonia, physics, thesis title "Supersymmetric Dark Matter", thesis awarded the National Science Award of Estonia, first place

2005-2008, secondary education, Tartu Miina Härma Gymnasium, Estonia

Supplementary education

2012 July-August, CERN Summer School, project in measuring the single top cross-section in the t-channel; CERN, Geneva, Switzerland

2012 March, University of Graz Winter School in Theoretical Physics; Schladming, Austria

2012 February, Compact Muon Solenoid Data Analysis School 2012; Pisa, Italy

2010 June-August, LANL summer student, project in modelling nuclear resource utilization in future energy scenarios; Los Alamos National Laboratory, Los Alamos, New Mexico, USA

2009 August-January, master's courses in nuclear engineering; Royal Technical University, Stockholm, Sweden

Employment

from 2014, Swiss Federal Institute of Technology in Zurich, doctoral student and research assistant in the Institute of Particle Physics, group of prof. Dissertori: LHC data analysis, experimental work at CMS, teaching

2011-2014, National Institute of Chemical Physics and Biophysics, Laboratory of High-Energy Physics and Computational Physics, software engineer: Monte-Carlo simulations, LHC data analysis, cluster and grid computing

2009, software engineer in the private sector (Insenerlahendused LLC, Estonia): developed software for microcontrollers in physics experiments, wind power controllers

Teaching experience

2015 Autumn: Physics I, ETHz, teaching assistant

2015 Spring: Introduction to Nuclear and Particle Physics, ETHz, teaching assistant

2014 December: Developed and conducted a 3-day tutorial on Higgs data analysis in the CMS Data Analysis School in Bari, Italy

Publications

2015, "Measurement of top quark polarisation in t-channel single top quark production", CMS collaboration, arXiv:1511.02138 [hep-ph], submitted to JHEP

2013, "PPPC 4 DM ν : A Poor Particle Physicist Cookbook for Neutrinos from DM annihilations in the Sun", P. Baratella, M. Cirelli, A. Hektor, J. Pata, M. Piibeleht and A. Strumia, arXiv:1312.6408 [hep-ph], JCAP 1403 (2014) 053, 15 citations

2011, "Implications of XENON100 and LHC results for Dark Matter models", M. Farina, M. Kadastik, D. Pappadopulo, J. Pata, M. Raidal and A. Strumia, arXiv:1104.3572 [hep-ph], Nucl.Phys. B853 (2011) 607-624, 85 citations

Main experimental notes and conference proceedings

2013, "Measurement of top quark polarization in t-channel single-top production", CMS-PAS-TOP-13-001

2012, "Measurement of the single-top t-channel charge ratio at 8 TeV", CMS-PAS-TOP-12-038

2012, "Measurement of the single-top t-channel cross section in pp collisions at centre-of-mass energy of 8 TeV", CMS-PAS-TOP-12-011

2010, J. Pata, A. H. Tkaczyk, "Isotope-Based Analysis of Nuclear Waste Repository Performance", ICONE18-30173 pp. 887-893 (conference proceedings)

Scholarships and recognition

2014-2017, HiggsTools, FP7 Initial Training Network, Marie Curie Early Stage Researcher

2014, Kristjan Jaak mobility scholarship, MSci track

2013, CMS Fundamental Physics Scholarship

2013, Annual Prize of the Estonian Physical Society, BSc track

2013, National Science Award of Estonia, first place in the BSc track of Natural Sciences for the BSc thesis "Supersymmetric Dark Matter"

2010, 18th International Conference on Nuclear Engineering, best presentation in the student track

2010, University of Tartu, Institute of Physics Student Scholarship, first place in BSc track