

Sergey Senkin

Personal info

Full Name	Dr Sergey Senkin	Citizenship	Russian Federation
Date of Birth	January 5, 1988	Place of Birth	Arkalyk, Kazakhstan

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Education

2010–2014 **PhD in Particle Physics**, *University of Bristol*.
2008–2010 **MSc in Applied Physics and Maths**, *Moscow Institute of Physics and Technology*.
2004–2008 **BSc in Applied Physics and Maths**, *Moscow Institute of Physics and Technology*.

Experience

Research

May 2014– **Postdoctoral Researcher**, *University of Bristol, UK*.
Nov 2014 $t\bar{t}+X$ cross section measurement at the CMS detector at the Large Hadron Collider, CERN
Oct 2010– **PhD Student**, *University of Bristol, UK; CERN*.
May 2014 Top quark mass and $t\bar{t}+X$ cross section measurement at CMS in the lepton+jets channel
Sep 2009– **Research Assistant**, *Joint Institute for Nuclear Research, Dubna, Russia*.
Jun 2010 CMS dimuon High-Level Trigger efficiency studies
Sep 2008– **Research Assistant**, *Texas A&M University, College Station, TX, USA*.
Mar 2009 Search for the lightest NMSSM Higgs boson ($h_1 \rightarrow a_1 a_1 \rightarrow 4\mu$)
Jun 2007– **Intern Student**, *Fermi National Accelerator Laboratory, Batavia, IL, USA*.
Sep 2007 Tevatron turn-by-turn optics fit using MAD-X

Service work

Summer 2011– **HLT Developer/Shifter**, *CERN, Geneva, Switzerland*.
Autumn 2012 Top trigger developer; ECAL Endcaps High-Voltage System on-call expert
November 2008 **CSC Shifter**, *CERN, LHC, CMS detector, Point 5, Cessy, France*.
2008 Cathode Strip Chambers detector subsystem maintenance

Teaching

Spring 2011, **Tutor**, *University of Bristol, School of Physics, Bristol, UK*.
Spring 2013 Tutorials in Maths and Particle Physics for L1 and L3 students
Spring 2009 **Teaching Assistant**, *Texas A&M University, College Station, TX, USA*.
Tutorials and labs for freshman General Physics course
March 2005 **Physics Grader**, *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*.
National Physics Olympiad for high school students

Relevant training

- Autumn 2011 **RAL HEP Summer School**, Rutherford Appleton Laboratory, Abingdon, UK.
August 2012 **CTEQ-Fermilab Summer School on QCD and Electroweak Phenomenology**, Pontificia Universidad Católica del Perú, Lima, Peru.

Other experience

- Dec 2014– **Gap year for world travel.**
July 2015 *Explored the cultures and nature of China, Tibet, Nepal, India, Burma, Thailand, Indonesia, Vietnam, Australia, New Zealand, Canada and Cuba.*

Languages

<i>English</i>	Fluent	<i>French</i>	Basic
<i>Russian</i>	Native	<i>Spanish</i>	Basic

Computer skills

<i>OS</i>	Linux/Unix, Mac OS X	<i>programming</i>	C/C++, python, R
<i>scientific</i>	CMSSW, Geant4, Mathematica	<i>revision control</i>	Git, SVN, CVS
<i>big data</i>	GRID, Hadoop	<i>typography</i>	L ^A T _E X, OpenOffice
<i>IDE</i>	Eclipse	<i>other skills</i>	ROOT, SciPy/NumPy, matplotlib

Conference and workshop presentations

- 18 Jun 2013 Measurement of Global Distributions in Top Pair Events with CMS at the LHC, *Postgraduate Conference, Bristol, UK*
9 Apr 2013 Measurement of MET, HT and other global distributions in top pair events, *IoP Conference, Liverpool, UK*
8 Jan 2013 Measurement of MET, HT and other global distributions in top pair events, *CMS UK Collaboration meeting, Abingdon, UK*
14 Jun 2012 Validation study of Particle Flow Jet Energy Corrections for top paths, *Trigger Studies Group meeting, CERN*
15 May 2012 Jets at High-Level Trigger for Top Physics, *Top Quark PAG meeting, CERN*
12 Dec 2011 Using HitFit kinematic fitter in lepton+jets top mass analyses, *Workshop on kinematic fitting, CERN*

Honours and awards

- 2010 University of Bristol Postgraduate Research Scholarship
2008 TAMU Department of Physics Fellowship
2004 Yuri Gagarin award in “Study and scientific research” category
Russian National Physics and Mathematics Olympiads (region round):
2004 1st diploma in physics and mathematics
2003 2nd diploma in physics, 3rd in mathematics

Scientific and other interests

- Particle physics, search for new phenomena, data science, IT
- Machine learning, AI, sustainable development, health physics, neuroscience
- Alpine skiing, mountain biking, scuba diving, surfing, travelling

Publications with significant contribution

- 2014 CMS Collaboration, “Measurement of missing transverse energy and other event-level observables in top pair events at $\sqrt{s} = 8$ TeV”, *CMS-PAS-TOP-12-042, paper in collaboration wide review*
- 2013 CMS Collaboration, “Measurement of missing transverse energy in top pair events at $\sqrt{s} = 7$ TeV”, *CMS-PAS-TOP-12-019, paper in collaboration wide review*
- 2012 CMS Collaboration, “Measurement of the top-quark mass in $t\bar{t}$ events with lepton+jets final states in pp collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1007/JHEP12(2012)105, JHEP*
- 2010 Alexander Belyaev, Jim Pivarski, Alexei Safonov, Sergey Senkin, and Aysen Tatarinov, “LHC discovery potential of the lightest NMSSM Higgs boson in $h_1 \rightarrow a_1 a_1 \rightarrow 4\mu$ channel”, *DOI:10.1103/PhysRevD.81.075021, Phys. Rev. D*

Publications with contribution via the High-Level Trigger work

- 2013 CMS Collaboration, “Search for the standard model Higgs boson produced in association with a top-quark pair in pp collisions at the LHC”, *DOI:10.1007/JHEP05(2013)145, JHEP*
- 2013 CMS Collaboration, “Measurement of the $t\bar{t}$ production cross section in pp collisions at $\sqrt{s} = 7$ TeV with lepton+jets final states”, *DOI:10.1016/j.physletb.2013.02.021, Physics Letters B*
- 2013 CMS Collaboration, “Measurement of differential top-quark pair production cross sections in pp collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1140/epjc/s10052-013-2339-4, European Physical Journal C*
- 2013 CMS Collaboration, “Search for heavy quarks decaying into a top quark and a W or Z boson using lepton + jets events in pp collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1007/JHEP01(2013)154, JHEP*
- 2012 CMS Collaboration, “Measurement of the top-quark mass in $t\bar{t}$ events with lepton+jets final states in pp collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1007/JHEP12(2012)105, JHEP*
- 2012 CMS Collaboration, “Search for pair produced fourth-generation up-type quarks in pp collisions at $\sqrt{s} = 7$ TeV with a lepton in the final state”, *DOI:10.1016/j.physletb.2012.10.038, Physics Letters B*
- 2012 CMS Collaboration, “Inclusive and differential measurements of the $t\bar{t}$ charge asymmetry in proton-proton collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1016/j.physletb.2012.09.028, Physics Letters B*
- 2012 CMS Collaboration, “Search for charge-asymmetric production of W’ bosons in top pair + jet events from pp collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1016/j.physletb.2012.09.048, Physics Letters B*
- 2012 CMS Collaboration, “Measurement of the charge asymmetry in top-quark pair production in proton-proton collisions at $\sqrt{s} = 7$ TeV”, *DOI:10.1016/j.physletb.2012.01.078, Physics Letters B*
- 2012 CMS Collaboration, “Measurement of the mass difference between top and antitop quarks”, *DOI:10.1007/JHEP06(2012)109, JHEP*

Referees

Professor Greg Heath

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Last Updated

October 9, 2015

<https://github.com/senkin/CV>