

Viktor D. Khristenko

- *Address* 510/1-004 CERN, CH-1211, Geneva 23, Switzerland
- *Phones* +41 (0)76 617 67 50 • +41 (0)75 411 28 74 • +7 (8)910 748 15 14
- *Email* vdkhristenko1991@gmail.com
- *Linkedin* <https://www.linkedin.com/in/viktor-khristenko>
- *Languages* Russian(native) • English(native fluency) • French(B1-B2)

Professional Activities

- Group Lead - CMS Hadron Calorimeter Data Quality Monitoring Group** 2014-Current
CERN - European Organization for Nuclear Research, Geneva, Switzerland
- Responsible for Data Certification Process - Validating the Usability of Collected Data by Physics Analyses
 - Designed and Implemented Criteria & Instructions targeting Calorimeter Performance Evaluation
 - Critical *Data-driven Quality Control Applications*
- Deputy Coordinator - CMS Hadron Calorimeter Operations Group** 2015-2016
CMS - Compact Muon Solenoid Experiment @CERN, Geneva, Switzerland
- “CMS 2015 Achievement Award”
 - Responsible for Operational Aspects of all the Components of the *Calorimeter* System
 - Coordination ⇒ Installation ⇒ Debugging ⇒ DataTaking ⇒ Status Report ⇒ Collaboration ⇒ Training Newcomers
- Graduate Research Assistant** 2014-Current
CMS Experiment @CERN, Geneva, Switzerland • The University of Iowa, Iowa City, IA, USA
- *Big Data* Analyses, e.g. *Higgs Boson* Searches
 - Design, construction and analysis of *Monte Carlo* Simulations of Particle Detectors using *Geant4*
 - Data Analysis and Operations Support for *Fermilab* T-1041 “CMS Forward Calorimetry R&D” Experiment
- Graduate Teaching Assistant** 2012-Current
The University of Iowa, Iowa City, IA, USA
- Teaching Laboratory and Discussion Sections for General Physics Courses.
- Research Assistant** 2009-2012
Coe College, Cedar Rapids, IA, USA
- *Raman Spectroscopy* Measurements of Titanium Oxide-based glasses
 - *Scientific Application Development* for *Nuclear Magnetic Resonance Spectroscopy*

Software Projects

- ROOT4J**
<https://github.com/diana-hep/root4j>
- ROOT I/O for JVM
- Spark-Root**
<https://github.com/diana-hep/spark-root>
- Extension of ROOT4J for use with Apache Spark

Programming Skills

- Experienced**
C/C++/STL/Boost • python • Scala • SQL • Graphlab • ROOT • git • LaTeX • scikit-learn
- Familiar**
Apache Spark/MapReduce • Java • JScript • php • Elixir/Erlang • Pascal

Education

PhD in Physics <i>The University of Iowa, Iowa City, IA, USA</i> <ul style="list-style-type: none">Thesis Title, “Search for the Standard Model Higgs Boson in the $\mu^+\mu^-$ decay channel in pp collisions at $\sqrt{s} = 13$ TeV in CMS, Calibration of CMS Hadron Forward Calorimeter in Preparation for Run 2”	2012-2017(Expected)
BA Physics and Mathematics; Cum Laude <i>Coe College, Cedar Rapids, IA, USA</i> <ul style="list-style-type: none">Minor in Computer ScienceDean’s List Spring 2010 & Fall 2010	2009-2012
Department of Cybernetics <i>Moscow Engineering Physics Institute, Moscow, Russia</i>	2008-2009
Online Education Certificates <i>Coursera</i> <ul style="list-style-type: none">Functional Programming Principles in <i>Scala</i> (EPFL).Functional Program Design in <i>Scala</i> (EPFL).Machine Learning Foundations: A Case Study Approach (University of Washington)Machine Learning: Regression (University of Washington)Machine Learning: Classification (University of Washington)	Certificate Certificate Certificate Certificate Certificate

Athletic Activities

Volunteer Assistant Tennis Coach <i>The University of Iowa Hawkeyes Men’s Tennis Team, NCAA Division 1</i>	2013-2014
Student Athlete <i>Coe College, Varsity Men’s Tennis Team, NCAA Division 3</i> <ul style="list-style-type: none">IIAC Team Champion (2012)NCAA Regionally Ranked in Singles (2011, 2012)IIAC All-Conference (2009, 2011, 2012)IIAC Conference Champion (2009, 2010, 2011, 2012)Team Captain (2011, 2012)	2009-2012

Publications & Presentations

- “SPARK-ROOT: ROOT I/O for JVM and Applications for Apache Spark”
“ROOT I/O Workshop”, CERN, Feb 2017
- “10B NMR Powder Pattern Optimized for Distribution of the Quadrupole Parameters”
“Borate 2011: 7th International Conference on Borate Glasses, Crystals and Melts” Halifax, NS Canada
- V. Khristenko et al., “SpectraFit: A New Program to Simulate and Fit Distributed 10B Powder Patterns: Application to Symmetric Trigonal Borons.”, Phys. Chem. Glasses: Eur. J. Glass Sci Technol. B, June 2012, 53 (3), 121-127.
- U. Akgun, ..., V. Khristenko et al., “Characterization of 1800 Hamamatsu R7600-M4PMTs for CMS HF Calorimeter upgrade”, Journal of Instrumentation, 2014 JINST 9 T06005
- M. Dettmann, ..., V. Khristenko et al., accepted for publication, “Radiation Hard Plastic Scintillators for a New Generation of Particle Detectors”, JINST_023P_0716
- U. Akgun, ..., V. Khristenko et al., “Quartz Plate Calorimeter Prototype with Wavelength Shifting Fibers”, Journal of Instrumentation, JINST 002P 0412, 2012
- A. Albayrak-Yetkin, ..., V. Khristenko “Secondary Emission Calorimetry: Fast and Radiation-Hard”, Snowmass White Paper, arXiv: 1307.8051.