

# Viktor D. Khristenko

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- *Linkedin* <https://www.linkedin.com/in/viktor-khristenko>
- *Languages* Russian(native) • English(native fluency) • French(B1-B2)

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## Professional Activities

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**Deputy Coordinator - CMS Hadron Calorimeter Operations Group** 2015-2016

*CERN - European Organization for Nuclear Research, Geneva, Switzerland*

- “CMS 2015 Achievement Award”
- Responsible for Operational Aspects of all the Components of the *Calorimeter* System
- Coordination  $\Rightarrow$  Installation  $\Rightarrow$  Debugging  $\Rightarrow$  DataTaking  $\Rightarrow$  Status Report  $\Rightarrow$  Collaboration  $\Rightarrow$  Training Newcomers

**Group Lead - CMS Hadron Calorimeter Data Quality Monitoring Group** 2014-Current

*CMS - Compact Muon Solenoid Experiment @CERN, 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
- Complete *Software Lifecycle* Support for Critical *Data-driven Quality Control Applications*

**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
- Calibration of the CMS Hadron Forward Calorimeter using Radioactive Sources

**Graduate Teaching Assistant** 2012-Current

*The University of Iowa, Iowa City, IA, USA*

- Teaching Laboratory and Discussion Sections for General Physics Courses
- Grading Home Assignments for graduate & undergraduate level 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*

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## Programming Skills

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**Experienced**

*C/C++/STL/Boost • python • Scala • SQL • Graphlab • ROOT • git • LaTeX • scikit-learn*

**Familiar**

*Apache Spark/MapReduce • Java • JScript • php • Elixir/Erlang*

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## Education

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<b>PhD in Physics</b>	2012-2017(Expected)
<i>The University of Iowa, Iowa City, IA, USA</i>	
<ul style="list-style-type: none"><li>• Thesis Title, “Search for Standard Model Higgs Boson decaying via Dimuon Channel at <math>\sqrt{s} = 13</math> TeV in CMS, Calibration of Hadron Forward Calorimeter in Preparation for Run 2”</li></ul>	
<b>BA Physics and Mathematics; Cum Laude</b>	2009-2012
<i>Coe College, Cedar Rapids, IA, USA</i>	
<ul style="list-style-type: none"><li>• <i>Minor in Computer Science</i></li><li>• Dean’s List Spring 2010 &amp; Fall 2010</li></ul>	
<b>Department of Cybernetics</b>	2008-2009
<i>Moscow Engineering Physics Institute, Moscow, Russia</i>	
<b>Online Education Certificates</b>	2016-2016
<i>Coursera</i>	
<ul style="list-style-type: none"><li>• <b>Functional Programming</b> Principles in <i>Scala</i> (EPFL).</li></ul>	Certificate
<ul style="list-style-type: none"><li>• <b>Functional Program</b> Design in <i>Scala</i> (EPFL).</li></ul>	Certificate
<ul style="list-style-type: none"><li>• <b>Machine Learning</b> Foundations: A Case Study Approach (University of Washington)</li></ul>	Certificate
<ul style="list-style-type: none"><li>• <b>Machine Learning</b>: Regression (University of Washington)</li></ul>	Certificate
<ul style="list-style-type: none"><li>• <b>Machine Learning</b>: Classification (University of Washington)</li></ul>	Certificate

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## Athletic Activities

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

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## Publications & Presentations

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- “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
- 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”, Snow-mass White Paper, arXiv: 1307.8051.