

Viktor D. Khristenko

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- **Languages** Russian(native) • English(native fluency) • French(B1-B2)

Professional Experience

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

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

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.

Education

PhD in Physics 2012-2017(Expected)

The University of Iowa, Iowa City, IA, USA

- Thesis Title, “Search for Standard Model Higgs Boson decaying via Dimuon Channel at $\sqrt{s} = 13$ TeV in CMS, Calibration of Hadron Forward Calorimeter in Preparation for Run 2”

BA Physics and Mathematics; Cum Laude 2009-2012

Coe College, Cedar Rapids, IA, USA

- **Minor in Computer Science**
- Dean’s List Spring 2010 & Fall 2010

Department of Cybernetics 2008-2009

Moscow Engineering Physics Institute, Moscow, Russia

Education

Online Courses

Coursera

- **Functional Programming** Principles in *Scala* (EPFL). Certificate
- **Functional Program** Design in *Scala* (EPFL). Certificate
- **Machine Learning** Foundations: A Case Study Approach (University of Washington) Certificate
- **Machine Learning**: Regression (University of Washington) Certificate
- **Machine Learning**: Classification (University of Washington) Certificate

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

Athletic Activities

Student Athlete, Coe College Varsity Men's Tennis Team

2009-2012

- *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)*

Volunteer Assistant Tennis Coach

2013-2014

The University of Iowa Hawkeyes Men's Tennis Team, NCAA Division 1

Publications & Presentations

- "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", Snowmass White Paper, arXiv: 1307.8051.