

Miroslav Šimko

Nuclear Physics Institute
Czech Academy of Sciences
Na Truhlářce 39/64 180 00 Praha 8, Czech Republic

ms@iolabs.cz
Phone: +420 605 063 354

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- Education**
- 2013–2019, Ph.D.**, Experimental Nuclear and Particle Physics
Czech Technical University
Faculty of Nuclear Sciences and Physical Engineering
Thesis: Study of Heavy Flavor at the STAR Experiment
- 2011–2013, M.Sc.**, Experimental Nuclear and Particle Physics
Czech Technical University
Faculty of Nuclear Sciences and Physical Engineering
Thesis: Design and Optimalization of the Optical Readout System for Electromagnetic Calorimeter FOCAL for the ALICE Experiment
- 2008–2011, B.Sc.**, Experimental Nuclear and Particle Physics
Czech Technical University
Faculty of Nuclear Sciences and Physical Engineering
Thesis: Detector Control System for the ALICE Experiment
- Experience**
- 2019–present: ioLabs: Geometry engine for collision detection**, written in C++ and Python, using Open CASCADE and VTK
- 2014–2019: Analysis:** Reconstruction of the Λ_c baryon at the STAR experiment Brookhaven National Laboratory, USA; Collaboration between Lawrence Berkeley National Laboratory, USA, and Czech Technical University; Analysis, using “big-data” techniques on computing clusters; Code written in C++ and Root, using machine learning from the TMVA package (Boosted-Decision Trees)
- 2015–2019: STAR Zero-Degree-Calorimeter on-call expert** at Brookhaven National Laboratory, USA; Responsible for calibration, checks, maintenance, and upgrades of crucial detector components; Calibration code written in C++ and Root
- 2013–2014: Lawrence Berkeley National Laboratory, USA: Simulations for the Pixel sensors** at the STAR experiment; Written in C++ and Root
- 2012–2013: Development of the Prague prototype (scintillator version) of the electromagnetic-forward calorimeter FoCal** for ALICE, LHC, CERN, Switzerland; R&D of optical readout; Built an optical-testing facility; Testing performed, using National Instruments control systems, programmable in NIM LabView; Analysis, using C++, Root, and Matlab
- 2011–2013: Detector-Control-System expert for the Silicon-Drift Detector** for the ALICE experiment, LHC, CERN, Switzerland; Responsible for maintenance and smooth operation of the detector, written upgrades to the system in PVSS

Languages and Skills	<p>Czech/Slovak (native), English (fluent), French (intermediate), Japanese (intermediate)</p> <p>Programming in C, C++, Python, Root, Matlab, Mathematica, BASH, PVSS, National Instruments LabView</p> <p>Driver's license B</p>	
Teaching	<p>Czech Technical University Faculty of Nuclear Sciences and Physical Engineering Student Physics Laboratory Practice, 2014–2019</p>	
Interests	<p>Physics, informatics, photography, hiking, sport (bicycle, ski, canoeing), literature</p>	
Conferences	<p>Quark Matter 2018, Venice, Italy May 13–19, 2018 Poster: Measurement of $\bar{\Lambda}_c^-/\Lambda_c^+$ ratio in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV with the STAR experiment</p> <p>3-Kings Conference 2018, Košice, Slovakia Jan 5, 2018 Talk: Measurement of open charm in relativistic-heavy-ion collisions</p> <p>19th Conference of Czech and Slovak Physicists, Prešov, Slovakia Sep 4–7, 2017 Talk: Measurement of the Λ_c baryon at $\sqrt{s_{NN}} = 200$ GeV with the STAR experiment</p> <p>EPS Conference on High Energy Physics, Venice, Italy Jul 5–12, 2017 Talk: Measurements of open charm hadron production in Au+Au collisions by the STAR experiment</p> <p>Hot Quarks, South Padre Island, Texas, USA Sep 12–17, 2016 Talk: Measurements of open charm hadrons at the STAR experiment</p> <p>Quark Matter 2015, Kobe, Japan Sep 27–Oct 3, 2015 Poster: Λ_c baryon production at $\sqrt{s_{NN}} = 200$ GeV</p> <p>ICPAQGP2015, Kolkata, India Feb 2–6, 2015 Talk: Heavy Flavor Tracker at the STAR Experiment</p> <p>18th Conference of Czech and Slovak Physicists, Olomouc, Czech Republic Sep 16–19 2014 Talk: Simulations for the HFT–Pixel detector at the STAR experiment</p> <p>Workshop VERTEX2014, Mácha Lake, Czech Republic Sep 15–19, 2014 Poster: Simulations for the HFT–Pixel detector at the STAR experiment</p>	
References	<p>Jaroslav Bielčík (Current supervisor) Faculty of Nuclear Sciences and Physical Engineering Czech Technical University in Prague jaroslav.bielcik@fjfi.cvut.cz</p> <p>Vojtěch Petráček (Former supervisor) Czech Technical University in Prague University Director vojtech.petracek@fjfi.cvut.cz</p>	<p>Zhangbu Xu (Work on STAR ZDC) Brookhaven National Laboratory STAR Spokesperson xzb@bnl.gov</p> <p>Xin Dong (Supervisor at LBNL) Lawrence Berkeley National Laboratory xdong@lbl.gov</p>