

# Abdul-Kerim Guseinov

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## Education

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- **Lomonosov Moscow State University**, Moscow, Russia Sep 2022 – present  
Postgraduate student, Faculty of Physics, Department of General Nuclear Physics.
- **Lomonosov Moscow State University**, Moscow, Russia Sep 2020 – Jun 2022  
M. Sc. in Physics, Department of General Nuclear Physics.  
Thesis: *Properties of multihadron decays of bottom baryons produced in proton-proton collisions at the Large Hadron Collider.*  
Graduated summa cum laude: excellent grades throughout the course of study.
- **Lomonosov Moscow State University**, Moscow, Russia Sep 2016 – Jun 2020  
B. Sc. in Physics, Department of General Nuclear Physics.  
Thesis: *Multiparticle hadronic decays of bottom baryons produced in the LHCb detector.*  
Graduated summa cum laude: excellent grades throughout the course of study.
- **Lyceum N1586**, Moscow, Russia Grad. in Jun 2016  
Specialized in Physics and Mathematics.  
Graduated with distinction: grade average 5.0 of 5 in Grade Certificate.

## Working Experience

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- Laboratory Assistant at the Institute for Theoretical and Experimental Physics (ITEP).  
2019 – 2023
- Member of the LHCb research groups at ITEP and SINP MSU since 2019.
- Primary author of LHCb-ANA-2015-020: First observation of the  $\Lambda_b^0 \rightarrow D^+ p \pi^- \pi^-$  and  $\Lambda_b^0 \rightarrow D^{*+} p \pi^- \pi^-$  decays. Paper published in JHEP (see below).  
My contribution: fitting model development and tuning, estimation of fitting model systematics, statistical experiments studies.
- Primary author of LHCb-ANA-2021-060: Study of charm baryon resonances in the  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^+ \pi^- \pi^-$  decay. (in preparation)  
My contribution: development of fitting models for all relevant spectra, fitter stabilization, measurements of masses and widths of baryon resonances, preliminary estimates of systematics.
- Reported on the status of the analysis of charm resonances in  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^+ \pi^- \pi^-$  at B2OC Meetings on 24 Nov 2022 and 15 Jun 2023. ([Indico page 1](#), [2](#))

## Conferences and Workshops

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- 2nd Trans-Siberian School on High Energy Physics, organized by Tomsk Polytechnic University and CERN. Apr 2019
- 20th Interuniversity Concentrated Energy Flows Conference organized by Lomonosov

- MSU: Preliminary results on  $\Lambda_b$  multihadron decays branching ratios on behalf of the LHCb Collaboration. Nov 2019
- 54th Winter School organized by PNPI in St. Petersburg. Mar 2020
  - Lomonosov Universiade: Analysis of fitting model systematics and fit bias in  $\Lambda_b$   $BR$  measurements. May 2020
  - 30th International Scientific Lomonosov Conference organized by Lomonosov MSU: Preliminary results on  $\Lambda_b$  multihadron decay spectroscopy. Apr 2023

## Publications

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- LHCb Collaboration, Observation of  $\Lambda_b^0 \rightarrow D^+ p \pi^- \pi^-$  and  $\Lambda_b^0 \rightarrow D^{*+} p \pi^- \pi^-$  decays, [JHEP 03 153 \(2022\)](#).
- A-K. D. Guseinov, Measurement of decays  $\Lambda_b^0 \rightarrow D^+ p \pi^- \pi^-$  and  $\Lambda_b^0 \rightarrow D^{*+} p \pi^- \pi^-$  in  $pp$  collisions at the Large Hadron Collider, [Materials of the Faculty of Physics of Lomonosov MSU, 2 \(2020\)](#).
- A-K. D. Guseinov *et al.*, The Photon, ed. Prof. B.S. Ishkhanov. Co-author of a book on the photon. My section is concerned with physical vacuum and Casimir effect. (in Russian) DOI: [10.31453/kdu.ru.91304.0112](https://doi.org/10.31453/kdu.ru.91304.0112).

## Awards

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- 6 times awarded the Increased State Academic Scholarship.
- 8 times awarded University Scholarships named after M. V. Lomonosov, I. V. Kurchatov, L. A. Artsimovich, R. V. Khokhlov, and S. I. Vavilov.
- Was on the hall of fame at the Faculty of Physics during the 5th and 6th years at Lomonosov MSU.
- Trans-Siberian School on High Energy Physics visiting fellowship.

## Teaching Experience

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- Laboratory Instructor for 2nd year students practicum on Nuclear Physics. Sep 2020 – May 2021
- Teaching Assistant, Mathematical analysis. Sep – Dec 2017
- Teaching Assistant, Calculus. Jan – Jul 2018
- Many years of helping other students and answering their meticulous questions about every course.

## Software Experience

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- Languages: C, C++, Python, Rust, Lua, Unix shells.
- Data analysis: ROOT, RooFit, PyROOT, Ostap.
- Other experience: Unix/Linux, Vim, Git, LaTeX.