

# Gordana Milutinović Dumbelović

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## Employment

- **Global engineering technologies, Belgrade, Serbia**
  - Business Intelligence Project Lead/Team mentor, 2017 -
- **Institute of Nuclear Sciences Vinča, University of Belgrade, Serbia**
  - Research Assistant Professor, 2020 -
  - Research Assistant, 2013 - 2017
- **Institute of Physics, Centre for the Atomic and Subatomic Physics, Laboratory for High Energy Physics, University of Belgrade, Serbia**
  - Research Assistant, 2009 - 2013
- **Faculty of Physics, University of Belgrade, Serbia**
  - Teaching assistant in the course of the physics of nuclei and particles, 2010

## Education

- **Faculty of Physics, University of Belgrade, Serbia**
  - **PhD**, Department of Theoretical and Experimental Physics, University of Belgrade, Serbia, 2017  
**Thesis:** Physics potential for the  $\sigma \times BR(H \rightarrow \mu^+ \mu^-)$  and  $\sigma \times BR(H \rightarrow ZZ^*)$  measurements at 1.4 TeV CLIC  
Average/Overall Grade: 10.00/10.00 PhD
- **Faculty of Natural Sciences and Mathematics, Institute of Physics, University of Kragujevac, Serbia**
  - **BSc**, Department of Experimental Physics, Kragujevac, Serbia, 2009  
**Thesis:** Application of diffusion model in investigation of nuclear reaction 17.0 MeV/u  $^{132}\text{Xe} + ^{238}\text{U}$   
Average/Overall Grade: 9.57/10.00 BSc, Thesis grade: 10.00/10.00

## Conferences/Workshops

- 37<sup>th</sup> International conference on high energy physics, ICHEP 2014, July 2-9, 2014, Valencia, Spain
- CLIC workshop 2014, 3-7 February, 2014, CERN, Geneva, Switzerland
- 16<sup>th</sup> International Workshop on Future Linear Colliders, LCWS14, October 6-10, 2014, Belgrade, Serbia
- 25<sup>th</sup> Workshop of the Collaboration on Forward Calorimetry (FCAL) at a future e<sup>+</sup>e<sup>-</sup> collider, October 12-13, 2014, Belgrade, Serbia

- 9<sup>th</sup> International Physics Conference of the Balkan Physical Union –BPU9, Augst 24-27, 2015, Istanbul, Turkey
- CLIC workshop 2015, 26-30 January, 2015, CERN, Geneva, Switzerland
- CLIC workshop 2016, 18-22 January, 2016, CERN, Geneva, Switzerland
- Paris University, 7-9 November, 2016, Paris
- EPS-HEP conference, 07-12 July, 2017, Venice, Italy
- Petnica workshop 2018, 01-03 April, 2018, Petnica, Serbia
- DSC 5, Data Science Conference Belgrade, 19-20 November, 2019, Serbia

## HEP Schools

- PSI Zuoz summer school on Particle Physics, Gearing up for LHC Physics, August 1 - 7, 2010, Zuoz, Switzerland
- ISSCSMB'10: Internacional Summer School on High Energy Physics: Standard Model and Beyond, 27 August - 5 September, 2010, Akyaka, Turkey
- ISTAPP 2011, Internacional school of theory and analysis in Particle Physics, 31 January - 11 February, 2011, Istanbul, Turkey
- The 2011 Hadron Collider Physics Summer School, 8 - 17 June, 2011, CERN, Geneva, Switzerland
- 2013, DESY Linear collider school
- 2014 ESHEP Amsterdam, CERN European school for high energy physics

## Computing Skills

- Programming: C++, Fortran, MySQL
- Operating systems: Linux, Windows
- HEP data analysis: Athena framework, ROOT, Pythia, LCIO, Numerical Simulations, Monte Carlo Simulations, Numerical Analysis, Toolkit for Multivariate Analysis (TMVA) - machine learning environment for high energy physics analyses
- Softwares: WIRED and HYPATIA; MS office; Joomla
- BI softwares and tools: QlikView, ETL, NPrinting, JIRA, Confluence, Talend, Kafka, AWS

## Research Experience

From 2009 until 2012 I was employed by Institute of Physics as a trainee researcher and was a member of the ATLAS collaboration at CERN. During that time, I was working on the project Precise measurements of the parameters and search for the new particles at the ATLAS experiment. From 2013 I have started work on my PhD thesis with Vinča Institute of Nuclear Sciences, as a research associated. From 2013, I am a member of CLICdp collaboration at CERN, where I have been involved in several Higgs physics analysis, covering the Higgs coupling measurements to EW bosons and the second generation fermions at various CLIC energy stages. In order to perform rich physics program of physics beyond the Standard Model, detector for the future linear collider is faced with the unprecedented challenge for the most of the subsystems. The one of the most important

aspects that should be considered in measurement of the integral luminosity because its uncertainty affects many precision measurements and limits many of them adding a component of the systematic uncertainty. Team at Vinča Institute is involved in the issues of simulation and experimental control of the leading systematic effects in luminosity measurement originating from SM four-fermion production as physics background as well as from the beam-induced effects. Also, the group is developing methods for the very forward electron tagging, of relevance for numerous physics studies with the missing energy signature or low-yield processes.

## BI Experience

From 2017, I have started working as a BI developer where I have learned to design and develop ETL solutions, complex interfaces and reports - data visualizations (also optimization of the existing reports performance), prepare project documentation for various BI projects. I had direct communication with clients (with and without PMs) and also worked with Oracle and SQL Server databases. I possess a strong skills in working with XML files as well as writing complex SQL queries and performance tuning. From December 2019, my new role is Project lead/Team mentor and I am responsible for leading a team of people and leading business intelligence projects in the field of logistics using newest data driven technologies.

## Awards

- The award of the Faculty of Natural Sciences and Mathematics for the best student of the generation 2005/2006 who graduated in 2009.
- The award of the Faculty of Natural Sciences and Mathematics for the best student for the respective academic (2006-2009).
- The award of the University of Kragujevac for the best student of the Faculty of Natural Sciences and Mathematics for the final academic year 2008/2009.
- Scholarship by the "Fund for Young Talents" at the Ministry of Youth and Sport" for the final year of studies 2008/2009.
- Scholarship of the fund "Academic Dragoslav Srejevic", awarded to the excellent students from Kragujevac (2006-2009).
- Scholarship by the Ministry of Education of the Republic of Serbia (2006- 2008).

## Teaching Experience

- Faculty of Physics, University of Belgrade, Belgrade  
Teaching assistant in the course of the physics of nuclei and particles, 2010
- Petnica Institute, Serbia  
Co-mentor in the physics course, 2016
- Mathematical Grammar School, Belgrade  
Mentor in the physics course, 2018

## List of Publication

- **Research Papers - International Journals:**

- (1) H.Abramowicz, I. Bozovic-Jelisavcic, G. Kacarevic, S. Lukic, G. Milutinovic Dumbelovic, M. Pandurovic, et al. [CLICdp collaboration], Higgs Physics at the CLIC Electron-Positron Linear Collider, Eur. Phys. J. C 77:475, DOI: 10.1140/epjc/s10052-017-4968-5, ISSN:1434-6044.
- (2) G. Milutinović-Dumbelović, I. Božović-Jelisavčić, C. Grefe, G. Kačarević, S. Lukić, M. Pandurović, P. Roloff, I. Smiljanić, Physics potential for the measurement of  $\sigma(H\nu\bar{\nu}) \times BR(H \rightarrow \mu\bar{\mu})$  at the 1.4 TeV CLIC collider, 10pp, Eur.Phys.J. C75 (2015) 515, ISSN:1434-6044.
- (3) I. Bozovic Jelisavcic, S. Lukic, G. Milutinovic Dumbelovic, M. Pandurovic and I. Smiljanic, Luminosity Measurement at ILC, JINST 8 P08012, August 2013, arXiv:1304.4082, ISSN: 1748-0221.
- (4) H. Abramowicz, I. Bozovic Jelisavcic, G. Kacarevic, G. Milutinovic Dumbelovic et al. (CLICdp Collaboration), Top-Quark Physics at the CLIC Electron-Positron Linear Collider, JHEP 1911 (2019) 003, IF 5.83 (2018), arXiv:1807.02441

- **Chapter in a book:**

- (1) I. Bozovic-Jelisavcic, G. Kacarevic, S. Lukic, G. Milutinovic-Dumbelovic, M. Pandurovic et al. [CLICdp Collaboration], Updated baseline for a staged Compact Linear Collider, Edited by Philip N. Burrows (University of Oxford), Philippe Lebrun (CERN), Lucie Linssen (CERN), Daniel Schulte (CERN), Eva Sicking (CERN), Steinar Stapnes (CERN), Mark A. Thomson (University of Cambridge), CERN-2016-004, ISBN 978-92-9083-432-8 (paperback), ISBN 978-92-9083-433-5 (PDF), ISSN 0007-832, DOI:10.5170/CERN-2016-004, arXiv:1608.07537v3

- **Proceedings - International Conferences/Workshops:**

- (1) G. Milutinovic-Dumbelovic, I. Bozovic-Jelisavcic, A. Robson, P. Roloff,[on behalf of the CLICdp Collaboration] Measurement of the  $H \rightarrow ZZ^*$  decay and Higgs production in ZZ fusion at 1.4 TeV CLIC, Proceedings of LCWS14, 6-10 October, Belgrade, Serbia, C14-10-06.2, 10pp.
- (2) G. Milutinovic-Dumbelovic, [on behalf of the CLICdp Collaboration] SM-like Higgs decay into two muons at 1.4 TeV CLIC, 37th International Conference of High Energy Physics (ICHEP2014), July 2-9, 2014, Valencia, Spain, Nuclear Physics B - Proceedings Supplements (NUPHBP), DOI:10.1016/j.nuclphysbps.2015.09.423, 3pp.
- (3) I. Bozovic-Jelisavcic, S. Lukic, G. Milutinovic-Dumbelovic, M. Pandurovic, [on behalf of the CLICdp Collaboration] SM-like Higgs decay into two muons at 1.4TeV CLIC, Proceedings of LCWS13, 11-15 November 2013, Tokyo, Japan, Conference: C13-11- 11.1, 7pp.
- (4) G. Milutinovic-Dumbelovic, I. Bozovic-Jelisavcic, C. Grefe, G. Kacarevic, S. Lukic, M. Pandurovic, P. Roloff, I. Smiljanic, Measurement of the branching ratios for Standard Model Higgs decays into muon pairs and into Z boson pairs at 1.4 TeV CLIC, 9th International Physics Conference of the Balkan Physical Union - BPU9, 24-27 August 2015, Istanbul University, Istanbul, Turkey, AIP Conf. Proc.1722, 070006 (2016).
- (5) I. Bozovic-Jelisavcic,S. Lukic, G. Milutinovic Dumbelovic, P. Roloff, M. Pandurovic, Measurement of the Higgs to EW bosons decays at low and intermediate CLIC energies, International Workshop on Future Linear Colliders LCWS15, 2-6 November, 2015, Whistler, BC, Canada, Proceedings of LCWS15, SLAC eConf C151102.1

- **Proceedings - National Conferences/Workshops:**

- (1) M. Pandurović, S. Lukić, G. Milutinović Dumbelović, I. Božović Jelisavčić, Merenje odnosa grananja  $H \rightarrow \mu^+\mu^-$  na budućem kompaktnom linearnom sudaraču CLIC, XII Kongres fizičara Srbije, Zbornik radova, ISBN 978-86-86169-08-2, May 2013, 240-244.

• **Supporting notes of CLICdp collaboration:**

- (1) Physics potential for the measurement of  $\sigma(H\nu\nu) \times BR(H \rightarrow \mu^+\mu^-)$  at a 1.4 TeV CLIC collider, Milutinovic-Dumbelovic, Gordana, Bozovic-Jelisavcic, Ivanka, Grefe, Christian, Kacarevic, Goran, Lukic, Strahinja, Pandurovic, Mila, Roloff, Philipp Gerhard, Smiljanic, Ivan, arXiv:1412.5791, CLICdp-Note-2014-005, 2014, 17 pp.
- (2) Measurement of the Higgs decay to electroweak bosons at low and intermediate CLIC energies, Bozovic-Jelisavcic, Ivanka, Milutinovic-Dumbelovic, Gordana, Pandurovic, Mila, Lukic, Strahinja, arXiv:1603.08681; CLICdp-Conf-2016-004, 2016, 9 pp.
- (3) Measurement of the branching ratios for Standard Model Higgs decays into muon pairs and into Z boson pairs at 1.4 TeV CLIC, Milutinovic-Dumbelovic, Gordana, Bozovic-Jelisavcic, Ivanka, Grefe, Christian, Kacarevic, Goran, Lukic, Strahinja, Pandurovic, Mila, Roloff, Philipp Gerhard, Smiljanic, Ivan, CLICdp-Conf-2015-008, 2016, 5 pp.
- (4) Measurement of  $\sigma(H\nu_e\bar{\nu}_e) \times BR(H \rightarrow ZZ^*)$  and Higgs production in ZZ fusion at a 1.4 TeV CLIC collider, Milutinovic-Dumbelovic, Gordana, Bozovic-Jelisavcic, Ivanka, Robson, Aidan, Roloff, Philipp Gerhard, CLICdp-Conf-2015-004, 2015, 10 pp.
- (5) SM-like Higgs decay into two muons at 1.4 TeV CLIC, Milutinovic-Dumbelovic, G, CLICdp-Conf-2014-006, 2014, 3 pp.