

Özer Özdal

Ph.D. Candidate

Contact Information

Concordia University
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Personal Information

Date of birth
28/05/1990
Place of birth
Izmir, Turkey

Languages

Native Turkish
Advanced English
Intermediate French

Programming

FORTRAN, PYTHON,
MATLAB, C++,
Bash shell scripting,
MATHEMATICA, LaTeX

Research interests

Particle Physics Phenomenology
Beyond the Standard Model Phenomenology
Supersymmetric Extensions of the Standard Model
Dark Matter in Supersymmetric and Non-supersymmetric Models
LHC Phenomenology
Grand Unified Theories
Electroweak Symmetry Breaking

Education

- 2019-2020 **Visiting Ph.D. Student** NExT Institute & University of Southampton
Compressed Supersymmetric Spectra at the Large Hadron Collider (LHC)
Host Supervisor: Prof. Stefano Moretti
- since 2016 **Ph.D. candidate in Physics** Concordia University
Beyond Standard Model scenarios at LHC: dark matter, W' & Z' mass limits
- 2016-2017 **Inter-University Transfer Student** McGill University
Physics 610 Quantum Field Theory I given by Prof. Simon Caron-Huot
Physics 673 Quantum Field Theory II given by Prof. Alexander Maloney
- 2014-2016 **M.Sc. in Physics** Izmir Institute of Technology
The Higgs boson and right-handed neutrinos in supersymmetric models
- 2009-2014 **B.Sc. in Physics (Ranked 3rd)** Izmir Institute of Technology
Revisiting N-symmetric barrier tunneling in Quantum Mechanics

Experience

- Since 2016 **Concordia University** Teaching Assistant (TA)
PHYS 204: Mechanics (Tutor, 2019 Summer)
PHYS 367: Modern Physics and Relativity (Tutor, 2019 Winter)
PHYS 245: Classical Mechanics (Tutor, 2018 Fall)
PHYS 224: Introductory Experimental Mechanics (Lab Assistant)
PHYS 252: Optics (2017 Winter, 2018 Winter)
PHYS 236: Numerical Analysis in Physics (2016 Fall, 2017 Fall)
- Since 2016 **Concordia University** Research Fellow
Mariana Frank Research Group
- 2015-2016 **TUBITAK Project No: 114F461** Research Fellow
Muon Anomalous Magnetic Moment and Yukawa Quasi-Unification in Supersymmetric Models
Under the supervision of Assoc. Prof. Cem Salih Ün
- 2012-2012 **Koç University, Mechanical Characterization Lab** Internship
Vibration modeling in nanowire resonators with mechanical coupling
Under the supervision of Assoc. Prof. Erdem Alaca

Publications

2019	Natural Dark Matter and light bosons in an alternative left-right symmetric model	prepared for submission to JHEP
2019	Relaxing LHC constraints on the W_R mass	Phys. Rev. D 99, 035001
2018	Exploring the supersymmetric $U(1)_{B-L} \times U(1)_R$ model with dark matter, muon $g-2$, and Z' mass limits	Phys. Rev. D 97, 015012
2017	Muon $g-2$ in an alternative quasi-Yukawa unification with a less fine-tuned seesaw mechanism	Phys. Rev. D 97, 055007
2016	The Higgs boson and right-handed neutrinos in supersymmetric models	IZTECH Theses & Dissertations
2016	Mass spectrum and Higgs profile in B-L symmetric SSM	Phys. Rev. D 93, 055024

Activities

2015	Introduction to Supersymmetry Summer School (2015, September 7-11)	Boğaziçi University
2015	METU HEP Days (2015, February 12-14)	METU
2014	Cosmology and Astroparticle Physics Summer School (2014, September 1-12)	Boğaziçi University
2014	Differential Geometry and Topological Methods in Physics Summer School (2014, August 25-29)	Boğaziçi University
2014	Computational Techniques for Physicists and Astronomers Summer School (2014, August 13-22)	Boğaziçi University
2014	Winter School on Computer Applications in Accelerator and Particle Physics (2014, February 3-10)	Gaziosmanpaşa University
2013	Physics for Astronomers (2013, September 2-6)	Boğaziçi University
2013	Cosmology Summer School (2013, August 19-30)	Boğaziçi University
2010	Istanbul University 27th International Physics Congress (2010, September 14-17)	Istanbul University

Presentations

- 2019 **University of Southampton** (Oral Presentation) (2019, November 26)
Title: Relaxing LHC constraints on the W' mass, and natural Dark Matter
University of Southampton
- 2019 **NExT Meeting at Sussex** (Oral Presentation) (2019, November 20)
Title: W' models at the LHC
University of Sussex
- 2019 **Higgs Couplings Workshop, Oxford, UK** (Oral Presentation) (2019, September 30 - October 4)
Title: Mass spectrum and Higgs profile in B-L symmetric SSM
Higgs Couplings 2019
- 2019 **2019 XIth International Symposium: Quantum Theory and Symmetries (QTS)** (Oral Presentation) (2019, 1-5 July)
Title: Relaxing LHC constraints on the W_R mass
QTS 2019
- 2018 **2018 Phenomenology Symposium, Pittsburgh, USA** (Oral Presentation) (2018, 7-9 May)
Title: Naturalness and dark matter in supersymmetric $U(1)_{B-L} \times U(1)_R$ model
Pheno 2018
- 2018 **Winter Nuclear and Particle Physics Conference** (Oral Presentation) (2018, 15-18 February)
Title: Exploring the supersymmetric $U(1)_{B-L} \times U(1)_R$ model
WNPPC 2018
- 2015 **First Joint METU-IPM Conference on LHC Physics** (Poster presentation) (2015, September 29–October 3)
Title: Higgs Anomalies in SUSY B-L Model
ICTP-ECAR
- 2014 **Turkish Physical Society 31th International Physics Congress** (Poster presentation - 2014, July 21-24)
Title: Revisiting N-symmetric barrier tunneling in Quantum Mechanics
TFD-31
- 2014 **Izmir Solid State Physics Meeting** (Poster presentation) (2014, April 11)
Title: Revisiting N-symmetric barrier tunneling in Quantum Mechanics
IZTECH

On-going Studies

- 1) **Compressed supersymmetric spectra at Large Hadron Collider**
Collaboration with Prof. Stefano Moretti and Prof. Mariana Frank
- 2) **Correlating W' and Z' gauge boson mass limits in general extensions of the Standard Model**
Collaboration with Prof. Benjamin Fuks, Prof. Stefano Moretti, Prof. Poulou Poulou and Prof. Mariana Frank

Awards

2019	Mitacs Globalink Research Award	Mitacs
2016	Concordia International Tuition Award of Excellence	Concordia University
2014	B.Sc. in Physics 3rd Ranked Award	Izmir Institute of Technology

References

- 1) **Prof. Mariana Frank**
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- 2) **Prof. Benjamin Fuks**
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- 3) **Prof. Stefano Moretti**
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- 4) **Prof. Poulouse Poulouse**
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- 5) **Assoc. Prof. Cem Salih Ün**
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- 6) **Prof. Durmuş Ali Demir**
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