

DURMUŞ ALİ DEMİR

1. PERSONAL

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2. EDUCATION

YEAR	DEGREE	UNIVERSITY	DEPARTMENT
1995	Ph. D.	Middle East Technical University (METU) Ankara, Turkey	Physics
1991	B. Sc. (Minor)	METU	Physics
1991	B. Sc. (Major)	METU	Electrical and Electronics Engineering

3. AFFILIATIONS

YEARS	POSITION	UNIVERSITY	DEPARTMENT
2019-	Faculty	Sabancı University, İstanbul, Turkey	Faculty of Engineering and Natural Sciences
2007-2008	Visiting Scientist	DESY, Hamburg, Germany	Theory Group
2003-2019	Faculty	İzmir Institute of Technology (IZTECH), İzmir, Turkey	Physics
2000-2003	Post-Doc	William I. Fine Theoretical Physics Institute (TPI), Minneapolis, USA	Theoretical High Energy Physics
1998-2000	Post-Doc	The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy	High Energy Physics
1996-1997	Post-Doc	University of Pennsylvania, Philadelphia, USA	Physics and Astronomy

4. POSITIONS

YEARS	INSTITUTION	POSITION
2018-	Science Academy-İstanbul	Member, Executive Board
2012-2018	ICTP-Eurasian Center for Advanced Studies	Member, Founding Team
2011	IZTECH	Director, Graduate School
2006	CERN Strategy Group Meeting	Representative, Turkey
2005-2006	IZTECH	Dean, Faculty of Science
2004-2010	IZTECH	Chair, Department of Physics

5. SELECTED PRESS APPEARANCES

PRESS AGENCY	TOPIC
HaberTürk TV (Fatih Altaylı)	On the JWST observations, August 2022
Muhabet Kralı (Okan Bayülken)	On the future of the Universe, March 2020
Medyascope TV	On the LHC results, February 2020
Hürriyet Daily	On the Higgs particle, December 2011
TRT Documentary	On the LHC Experiments, May 2011
Anatolian Agency	On the receipt of Bessel Prize, August 2007
Focus Journal	On new physics from the LHC, May 2005

6. INTERNATIONAL HONORS AND AWARDS

NAME	INSTITUTION
Friedrich Wilhelm Bessel Research Award ^(*)	Alexander von Humboldt Stiftung (2007)
Distinguished Scholar	OIC-COMSTECH (2021)

^(*) The first Turkish-citizen researcher to win it.

7. NATIONAL HONORS AND AWARDS

NAME	INSTITUTION
Incentive Prize	TÜBİTAK (2005)
Incentive Prize	Turkish Academy of Sciences (2004)
Simavi Prize	Turkish Journalists' Chamber (2001)
Incentive Prize	Parlar Foundation (1997)

8. MEMBERSHIP TO INTERNATIONAL ACADEMIES

the World Academy of Sciences (TWAS) –Trieste, Italy (2009)

9. MEMBERSHIP TO NATIONAL ACADEMIES

the Science Academy – İstanbul, Turkey (2011)

10. MEMBERSHIP TO EDITORIAL BOARD

Letters in High Energy Physics http://journals.andromedapublisher.com/index.php/LHEP/about
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11. ASSOCIATIONS WITH INTERNATIONAL INSTITUTIONS

Associate Member, ICTP (2012 – 2017)
Member, CERN CMS Collaboration (2006 – 2012 / 2017 –)

12. RESEARCH INTERESTS

FIELD	TOPICS
Quantum Physics	TunnelingTime (foundations, quantum biology)
Gravitation	Emergent gravity (black holes, inflation)
Particle Physics	Naturalness

13. COMPLETED AND ON-GOING RESEARCH PROJECTS

PROJECT	ROLE	FUNDING INSTITUTION
Higgs Mass Constraints on New Physics	PI	TÜBİTAK (2019 – 2021)
Fingerprinting Higgs Signals at Colliders	PI	TÜBİTAK (2015 – 2017)
Anomaly Detection Applied to Search for New Particles	Researcher	TÜBİTAK (2013 – 2015)
Search for sbottoms at the CERN CMS	PI	Turkish Atomic Energy Commission (TAEK) (2012 – 2014)
Supernovae Bursts and Pulsar Kicks from Additional U(1)	PI	TÜBİTAK (2010 – 2012)
Search at CERN-CMS for Extra U(1) Forces	PI	TAEK (2009 – 2011)
Search for Dark Matter at CERN CMS	PI	TÜBİTAK (2005 – 2007)
Supersymmetric CP Violation in Meson Decays	Researcher	TÜBİTAK (2001 – 2003)
Upgrading DEC 300 Workstation in METU Physics Department	Researcher	TÜBİTAK (1996 – 1997)

14. INITIATIVES FOR AN ADVANCED RESEARCH CENTER

INITIATIVE	ACTIVITIES
ICTP – ECAR (Eurasian Center for Advanced Research)	Founding team member (with T. Senger and N. Bulut) IZTECH, İzmir, Turkey (2011-2018)

15. REFEREED JOURNALS

Physical Review Letters Physical Review D Physics Letters A Physics Letters B Classical and Quantum Gravity General Relativity and Gravitation New Journal of Physics Advances in High Energy Physics Annals of Physics Journal of High Energy Physics International Journal of Modern Physics D Modern Physics Letters A SciPost European Physical Journal C Journal of Physics G: Particles Journal of Physics: Photonics Nuclear Physics B Turkish Journal of Physics Scientific Reports MDPI-Universe MDPI-Symmetry

16. RECENT TALKS

TALK	CONFERENCE ON
Poincare Breaking and Gauge Invariance: A New Road to Emergent Gravity and New Particles	Frontiers of Fundamental Physics (FFP16), 23-26 May 2022, Istanbul, Turkey (online)
Gravitational Naturalization	International Conference on Gravity: Theory and Experiment (Gravitex 2021), Sep. 8-12, 2021, Durban, South Africa (online)
Symmergent Gravity	Ankara Physics Days, Jan. 25-26, 2020, Ankara, Turkey
SM-GR Blend and Dark Matter	Neutrinos and Dark Matter, Jan. 11-15, 2020, Hurghada, Egypt
Symmergent Gravity and BSM Physics	Heavy Quark Physics, Sep. 23-25, 2019, Islamabad, Pakistan
New Physics Searches	Heavy Quark Physics, Sep. 23-25, 2019, Islamabad, Pakistan
Entropic Tunneling Time	Statistical Physics Days, June 25-28, 2020, İzmir, Turkey
Symmergent Gravity and UV Physics	Quantization, Dualities and Integrable Systems (QDIS18), April 21-23, 2018, İstanbul, Turkey
Symmergent Gravity and Dark Sector	Physics Beyond the SM (BSM17), Dec. 20-23, 2017, Hurghada, Egypt
Curved Equivalence Principle and Ultraviolet Stability	Particle Physics and Cosmology, May 23-26, 2017, Corpus Christi, Texas, USA

17. STUDENTS

POST-DOCTORAL				
	NAME	NOW AT	YEAR	RESEARCH TOPIC
1	Ozan Sargın	Sabancı University	Cont.	Spin-3/2 Particles as Dark Matter
2	Beyhan Pulıçe	Sabancı University	Cont.	Fifth Force From Metric-Affine Gravity
3	Beste Korutlu	TÜBİTAK Metrology Institute	2017	New Physics from the Higgs Portal
4	Florian Bauer	Private Sector	2008	Palatini Inflation
5	Levent Selbuz	Ankara University	2011	Scalar Neutrinos as Dark Matter
6	Levent Solmaz	Balıkesir University	2007	Non-holomorphic minimal SUSY

DOCTORAL (Ph. D.)				
1	Elham Ghorani	Sabancı University	Cont.	Black Hole Solutions in Metric-Affine Gravity
2	Beyhan Pulıçe	Sabancı University	2020	Beryllium Decays and Family-Nonuniversal U(1)'
3	Hemza Azri	United Arabic Emirates University (UAE)	2018	Affine Inflation
4	Canan Karahan	İstanbul Technical University (İTÜ)	2016	Modified Newtonian Dynamics vs. Dark Matter

MASTER (M. Sc.)				
İrfan Çimdiker	Sabancı University	2021	Constraints from inflation and black-holes on emergent gravity theories	
Çağlar Samaner	IZTECH	2019	F(metric-affine) gravity: Disformal and cross-curvature effects	
Elif Şahin	IZTECH	2017	Adaptation of digital electronic into detector systems NUMEXO2 in exotic nuclei research	
Kemal Gültekin	IZTECH	2016	Affine dynamics with torsion	
Özer Özdal	IZTECH	2016	The Higgs boson and right-handed neutrinos in supersymmetric models	
Tuğrul Güner	IZTECH	2014	Entropic tunneling time and its applications	
Ozan Sargın	IZTECH	2014	Tunneling in polymer quantization and quantum zeno effect	
Aslı Altaş	IZTECH	2013	Abelian-non abelian mixing and cosmic inflation in born-infeld type gravity	
Onur Tosun	IZTECH	2012	Effects of dark photons on pulsar kicks	
Selin Soysal	IZTECH	2012	Born - infeld - riemann gravity	
Canan Düztürk	IZTECH	2010	Conformal transformations in metric-affine gravity	
Hale Sert	IZTECH	2010	Higgs bosons of gauge-extended supersymmetry at the LHC	
Aslı Sabancı	IZTECH	2008	The Higgs sector of the MSMM with general soft breaking terms	
Alper Hayreter	IZTECH	2008	Family non-universal U(1)' model	
Hanif Tanyıldızı	IZTECH	2007	Higher curvature gravity in large extra dimensions: Phenomenological implications	
Altan Çakır	IZTECH	2006	Flavor violation in supersymmetry	
Sevdiye Mutlu	IZTECH	2006	Renormalization group invariants in minimal supersymmetric standard model	
Beyhan Pulıçe	IZTECH	2006	Spacetime compactification induced by scalar fields	
Shahida Dar	ICTP	2000	Electric dipole moments in supersymmetry (Diploma Thesis)	

Undergrad (TUBITAK Project Teams)

Elif Özçelik, Eda Akar, Semih Zaman	Sabancı University	2021-2022	DNA Mutation by Proton Tunneling
Onur Akbal, Onur Benli, Mehmet Günay	IZTECH	2009-2010	Dark Matter Search
Onur Tosun, Seçil Gürkan	IZTECH	2008-2009	Fifth Force Searches
Günnur Görücü, Serap Yiğen	IZTECH	2006-2008	Quantum Tunneling between Neurons
Ozan Arslan, Tuna Demircik, Durmuş Karabacak	IZTECH	2006-2008	Supersymmetric Dark Matter