

# Shikma Bressler

## PhD

### *Personal details*

ID: 26666750  
Date of birth: July 10th, 1980  
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### *Educational background*

2006 - 2011 Technion – Israel Institute of Technology  
Ph.D. October 2011  
Supervisor: Prof. Shlomit Tarem  
Department of Physics  
2004 - 2006 Technion – Israel Institute of Technology  
MSc. October 2006  
Supervisor: Prof. Shlomit Tarem  
Department of Physics  
2000 - 2003 Technion – Israel Institute of Technology  
Undergraduate student Integrated  
program in Physics and Mathematics

### *Previous employment*

2015 - Present	Weizmann Institute of Science	Senior scientist	Particle Physics and Radiation Detection Physics
2012 – 2015	Weizmann Institute of Science	Scientist	Particle Physics and Radiation Detection Physics
2011 - 2012	Weizmann Institute of Science	Postdoctoral fellow	Particle Physics and Radiation Detection Physics

### *Research activities*

2018-present	High Energy physics	Search for BSM physics using the data focused paradigm
2016-present	High Energy Physics & Detector physics	Responsible for the phase 2 upgrade of the ATLAS TGC system – the EIL4 project
2013-present	High Energy physics	Search for lepton flavor violating decays of massive resonances
2013 - present	Detector physics	Member of CALICE (Calorimetry for Linear Colliders) collaboration
2012 – present	Detector physics	Member of the RD51 collaboration; development of Micro Pattern. Gas Detectors.
2011 - present	Detector physics	Developing Thick Gas Electron Multiplier (THGEM) based sampling element for the digital hadronic calorimeter (DHCAL) in future international colliders. Developing novel THGEM-based detector concepts.
2011-2015	High energy physics	Level 1 muon trigger simulation for the ATLAS experiment in the future High-Luminosity Large Hadron Collider.
2006 – 2012	High energy physics	Search for heavy long-lived charged particles with the ATLAS detector.
	Detector physics	Developing detector control system for the ATLAS muon endcap trigger chambers.

### ***Official roles***

2019	High energy physics & Detector physics	Member of the scientific program committee of the CEPC international scientific committee
2019 - present	High energy physics	Member of the ATLAS muon speakers committee
2017 – present	High energy physics	Member of the Israeli committee for High Energy Physics
2017 - present	High energy physics	Member of the ATLAS CB Chair advisory group
2015 – present	High energy physics	Upgrade of the ATLAS muon small wheel. Coordinating the activity of the Israeli group responsible, among others, for the production and testing of ~200 sTGC chambers.
2014 - 2017	High energy physics	Co-convenor of a common experimental and theory LHC working group on exotic Higgs decays. Search for lepton flavor violating Higgs decays.

### ***Conferences chairing***

2019	Israel Physics Society annual meeting	Chairing the High Energy Physics session
2018	Israel Physics Society annual meeting	Chairing the High Energy Physics session

### ***Invited talks***

2018	Invited Colloquium Bar Ilan University	Could we be missing new physics at the LHC?
2017	ALP2017: An Alpine LHC Physics Summit	Lepton Flavour Violation at ATLAS and CMS
2017	X-PMT Nanjing University	Progress in Room-Temperature and Cryogenic Resistive THGEM-based detectors
2017	TIPP2017	Review on Micro Pattern Gaseous Detectors Plenary session
2015	Flavour15	Overview of experimental searches for flavor violating Higgs decays at the LHC
2014	Autonomous University of Barcelona	Advances with THGEM detectors
2014	Albert Ludwigs University of Freiburg	Search for LFV Higgs decays
2014	University of Wuppertal	Search for LFV Higgs decays
2014	University of Sheffield	Advances with THGEM detectors Search for LFV Higgs decays

### ***External grants***

2019-2023	ISF Moked	Gearing up for high luminosity LHC - the quest to discover Physics beyond the Standard Model
2018-2020	MINERVA (PI)	General search for lepton flavour violating decays of massive resonances in ATLAS data
2016-2017	RD51 common project	Sampling Calorimetry with Resistive Anode MPGDs (SCREAM)
2016-2020	Israel Science Foundation (PI)	Investigations of The Resistive-Plate WELL detector as sampling element for (S)DHCAL and other applications
2015-2019	Bi-national Science foundation (PI)	Asymmetry in $e\mu$ final state: a novel probe for new physics

2013-2017	Israel-China (Participant)	Development of particle detector based on the TGC technology for the upgrade of the ATLAS experiment
2012-2017	Israel I-CORE program – accepted as a new researcher within this program	The quantum universe

### ***Honors***

2016	The Clore Prize
2010	The IPS Ze'ev Fraenkel Prize in Particle Physics, Nuclear Physics and Astrophysics
2008	The Gutwirth scholarship
2007	The Polak scholarship
2006	MSc. Degree cum laude
2003	Physics and Mathematics degree summa cum laude

### ***Conferences***

1	TIPP2017: International Conference on Technology and Instrumentation in Particle Physics, Beijing China, May 22-26 2017, “Recent development of Gaseous detectors”
2	TIPP2017: International Conference on Technology and Instrumentation in Particle Physics, Beijing China, May 22-26 2017, “Progress in Room-Temperature and Cryogenic Resistive THGEM-based detectors”
3	MPGD2017: 5 <sup>th</sup> international Conference on Micro-Pattern Gas Detectors, Temple University, Philadelphia, USA, May 2017, ”The RPWELL detector – its physics and potential applications”
4	Alps2017: An Alpine LHC Physics Summit, Obergurgl Austria, 17-22 April 2017, “Lepton Flavour Violation at ATLAS and CMS”
5	Flavour15: New Physics at High Energy and High Precision, Garching Germany, 1-3 June 2015, “Flavour Violating Higgs Decays”.
6	NSP2013, International Symposium on Nuclear Physics, Mumbai India, 02-06 December 2013, “Modern gas-avalanche radiation detectors: from innovations to applications”
7	Higgs Couplings 2013, Freiburg Germany, 14-16 October 2013, “Search for Higgs Bosons in Extensions of the SM in ATLAS and CMS”.
8	MPGD013, 3 <sup>rd</sup> International Conference on Micro Pattern Gaseous Detectors. Zaragoza Spain, 01-04 July 2013, “Recent advances with THGEM detectors”.
9	DIS 2011, XIX International Workshop on Deep-Inelastic Scattering and Related Subjects. Newport News, VA USA. April 11-15, 2011. “Searches for SUSY with ATLAS”.
10	SUSY07, The 15th International Conference on Supersymmetry and the Unification of Fundamental Interactions. Karlsruhe, Germany July 26 – August 1, 2007. “R- hadron and long lived particle searches at the LHC”.
11	2004 IEEE NSS/MIC/SNPS and RTSD, Nuclear Science Symposium. Rome, Italy October 18-21, 2004. “Design Prototyping and Testing of the Detector Control System for the ATLAS End-Cap Muon Trigger”.

### ***Other***

1995 - 2000	Member of the Israeli junior national basketball teams
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### ***Teaching experience***

2004 - 2011	<i>Teaching assistant</i> , Technion Physics Department Undergraduate courses in Mechanics, Analytical mechanics, Electricity and Magnetism, Statistical methods in Physics and Introduction to Nuclear and Particle Physics. Teaching, composed class and home exercises, wrote exam questions and graded exams.
2004	<i>Lab assistant</i> , Technion Physics department

Undergraduate first year physics lab Answered questions during lab sessions,  
graded papers.