

# ALAETTIN SERHAN METE

## PERSONAL DATA

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PLACE AND DATE OF BIRTH: Ankara, Turkey | 30 April 1984  
ADDRESS: 355, Rue Simone Veil, Saint-Genis-Pouilly, 01630, France  
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## RESEARCH INTERESTS

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Exotic and SUSY searches for physics beyond the Standard Model with main focus on direct production of heavy gauge bosons, top squarks, charginos/neutralinos and sleptons. Currently working on the ATLAS experiment at the Large Hadron Collider and based at the European Organization for Nuclear Research, Geneva, Switzerland.

## EDUCATION

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2006–2012 | Ph.D. in PHYSICS - **Iowa State University**, Ames, IA  
Adviser : Prof. James H. Cochran  
Thesis Title : “*Search for a heavy charged gauge boson decaying to a muon and a neutrino in  $1\text{ fb}^{-1}$  of proton-proton collisions at  $\sqrt{s} = 7\text{ TeV}$  using the ATLAS Detector*”, [CERN-THESIS-2012-063](#)

2002–2006 | B.Sc. in PHYSICS, **Middle East Technical University**, Ankara  
Graduation Project Supervisor : Prof. Namık Kemal PAK  
Graduation Project Title : “*Time Dependent Wave Packet Collisions*”  
HIGH HONOR STUDENT

## POSITIONS HELD

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2017– | Assistant Project Scientist, Department of Physics and Astronomy,  
**University of California, Irvine**, CA, USA

2012–2017 | Post-Doctoral Research Scholar, Department of Physics and Astronomy,  
**University of California, Irvine**, CA, USA

2008–2012 | Research Assistant, Department of Physics and Astronomy,  
**Iowa State University**, Ames, IA, USA and  
**Brookhaven National Laboratory**, Upton, NY, USA (since 2009)

2006–2008 | Teaching Assistant, Department of Physics and Astronomy,  
**Iowa State University**, Ames, IA, USA

## TEACHING EXPERIENCE

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Teaching Assistant	Phys. 111 - General Physics	( 1 semester )
	Phys. 221 - Introduction to Classical Physics I	( 2 semesters )
	Phys. 321 - Introduction to Modern Physics I	( 1 semester )
	Phys. 564 - Advanced Classical Mechanics	( 1 semester )
	Phys. 571 - Electricity and Magnetism I	( 2 semesters )

## RESEARCH EXPERIENCE

Convener	HEP Software Foundation (HSF) Software Tools Working Group (2018– )
Software Developer/ Convener	ATLAS Software Performance Optimization Team (SPOT) (2017– )
Editorial Board Member	ATLAS compressed SUSY EWK scenarios search (2016– )
Analysis Contact	ATLAS Stop2L SUSY search (Moriond/LHCP 2017) (2016–2017)
Editorial Board Member	ATLAS $2\tau$ SUSY EWK search (2016–2018)
Conference Note Editor	ATLAS Stop2L SUSY search (ICHEP 2016) (2016)
Paper Editor	ATLAS legacy of Run-I SUSY EWK searches (2015)
Subgroup Convener	ATLAS SUSY EWK searches (2014–2015)
Analysis Contact/ Paper Editor	ATLAS 2L SUSY EWK search (2013–2014)
Paper Editor	ATLAS $W' \rightarrow \ell\nu$ $\sqrt{s} = 8$ TeV search (2014)
Analysis Contact/ Paper Editor	ATLAS $W' \rightarrow \ell\nu$ $\sqrt{s} = 7$ TeV search (2011)
Software Developer	NSW sTGC trigger simulation (2015–2017)
Software Developer	$E_T^{\text{miss}}$ Run-II EDM and reconstruction (2014–2017)
Trigger Monitoring Expert	Author of <i>OnlineRatesChecker</i> package (2011–2012)
DAQ/HLT Shifter	Online DAQ/HLT shifts (2010–2011)

## PUBLICATIONS

- ATLAS Collaboration, “Search for electroweak production of supersymmetric particles in final states with two or three leptons at  $\sqrt{s} = 13$  TeV with the ATLAS detector”, Eur. Phys. J. **C78** (2018) 995, [arxiv:1803.02762 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for direct top squark pair production in final states with two leptons in  $\sqrt{s} = 13$  TeV  $pp$  collisions with the ATLAS detector”, Eur. Phys. J. **C77** (2017) 898, [arxiv:1708.03247 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for supersymmetry in final states with two same-sign or three leptons and jets using  $36 \text{ fb}^{-1}$  of  $\sqrt{s} = 13$  TeV  $pp$  collision data with the ATLAS detector”, J. High Energy Phys. **09** (2017) 084, [arxiv:1706.03731 \[hep-ex\]](#)
- ATLAS Collaboration, “Dark matter interpretations of ATLAS searches for the electroweak production of supersymmetric particles in  $\sqrt{s} = 8$  TeV proton-proton collisions”, J. High Energy Phys. **09** (2016) 175, [arxiv:1608.00872 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for the electroweak production of supersymmetric particles in  $\sqrt{s} = 8$  TeV  $pp$  collisions with the ATLAS detector”, Phys. Rev. **D93** (2016) 052002, [arxiv:1509.07152 \[hep-ex\]](#)
- J. Abdallah *et al.*, “Simplified Models for Dark Matter Searches at the LHC”, Phys. Dark Univ. **9-10** (2015) 8-23, [arxiv:1506.03116 \[hep-ph\]](#)
- ATLAS Collaboration, “Search for direct pair production of a chargino and a neutralino decaying to the 125 GeV Higgs boson in  $\sqrt{s} = 8$  TeV  $pp$  collisions with the ATLAS detector”, Eur. Phys. J. **C75** (2015) 208, [arxiv:1501.07110 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for new particles in events with one lepton and missing transverse momentum in  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”, J. High Energy Phys. **09** (2014) 037, [arxiv:1407.7494 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for the direct production of charginos, neutralinos and staus in final states with at least two hadronically decaying taus and missing transverse momentum in  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”, J. High Energy Phys. **10** (2014) 096, [arxiv:1407.0350 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for direct production of charginos, neutralinos and sleptons in final states with two leptons and missing transverse momentum in  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”, J. High Energy Phys. **05** (2014) 071, [arxiv:1403.5294 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in  $\sqrt{s} = 8$  TeV  $pp$  collisions with the ATLAS detector”, J. High Energy Phys. **04** (2014) 169, [arxiv:1402.7029 \[hep-ex\]](#)
- ATLAS Collaboration, “ATLAS search for a heavy gauge boson decaying to a charged lepton and a neutrino in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”, Eur. Phys. J. **C72** (2012) 2241, [arxiv:1209.4446 \[hep-ex\]](#)

- ATLAS Collaboration, “Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in  $\sqrt{s} = 7$  TeV  $pp$  collisions with the ATLAS detector”, Phys. Lett. **B718** (2013) 841, [arxiv:1208.3144 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for direct slepton and gaugino production in final states with two leptons and missing transverse momentum with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”, Phys. Lett. **B718** (2013) 879, [arxiv:1208.2884 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for a heavy gauge boson decaying to a charged lepton and a neutrino in  $1\text{ fb}^{-1}$  of  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”, Phys. Lett. **B705** (2011) 28, [arxiv:1108.1316 \[hep-ex\]](#)
- ATLAS Collaboration, “Search for high-mass states with lepton plus missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”, Phys. Lett. **B701** (2011) 50, [arxiv:1103.1391 \[hep-ex\]](#)
- S.K. Gupta, A.S. Mete and G. Valencia, “CP violating anomalous top quark couplings at the LHC”, Phys. Rev. **D80** (2009) 034013, [arxiv:0905.1074 \[hep-ph\]](#)

## CONFERENCE NOTES AND PROCEEDINGS

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- A. S. Mete, “Searches for Higgsinos and related challenges in ATLAS”, 53<sup>rd</sup> Rencontres de Moriond on Electroweak Interactions and Unified Theories, [ATL-PHYS-PROC-2018-027 \(2018\)](#)
- ATLAS Collaboration, “Search for electroweak production of supersymmetric particles in the two and three lepton final state at  $\sqrt{s} = 13$  TeV with the ATLAS detector”, [ATLAS-CONF-2017-039 \(2017\)](#)
- ATLAS Collaboration, “Search for electroweak production of charginos and neutralinos in multilepton final states at  $\sqrt{s} = 13$  TeV with the ATLAS detector”, [ATLAS-CONF-2016-096 \(2016\)](#)
- ATLAS Collaboration, “Search for direct top squark pair production and Dark Matter production in final states with two leptons in  $\sqrt{s} = 13$  TeV  $pp$  collisions using  $13\text{ fb}^{-1}$  of ATLAS data”, [ATLAS-CONF-2016-076 \(2016\)](#)
- ATLAS Collaboration, “Search for supersymmetry with two same-sign leptons or three leptons using  $13.2\text{ fb}^{-1}$  of  $\sqrt{s} = 13$  TeV  $pp$  collision data collected by the ATLAS detector”, [ATLAS-CONF-2016-037 \(2016\)](#)
- ATLAS Collaboration, “Search for direct top squark pair production in final states with two leptons in  $\sqrt{s} = 13$  TeV  $pp$  collisions using  $3.2\text{ fb}^{-1}$  of ATLAS data”, [ATLAS-CONF-2016-009 \(2016\)](#)
- ATLAS Collaboration, “Search for high-mass states with one lepton plus missing transverse momentum in  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”, [ATLAS-CONF-2014-017 \(2014\)](#)
- ATLAS Collaboration, “Search for direct-slepton and direct-chargino production in final states with two opposite-sign leptons, missing transverse momentum and no jets in  $20\text{ fb}^{-1}$  of  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”, [ATLAS-CONF-2013-049 \(2013\)](#)
- A. S. Mete, “New Physics searches with ATLAS”, EPJ Web Conf. **70** (2014) 00050, [ATL-PHYS-PROC-2012-201 \(2012\)](#)
- ATLAS Collaboration, “Search for high-mass states with one muon plus missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”, [ATLAS-CONF-2011-082 \(2011\)](#)

## TALKS

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- “Higgsino searches and related challenges in ATLAS”, 53<sup>rd</sup> Rencontres de Moriond on Electroweak Interactions and Unified Theories (3/2018), **(On behalf of the ATLAS Collaboration)**
- “Searches for supersymmetry with electroweak and third generation squark production at ATLAS”, CERN-LHC Seminar (5/2017), **(On behalf of the ATLAS Collaboration)**
- “SUSY at ATLAS”, (Re)interpreting the results of new physics searches at the LHC (12/2016), **(On behalf of the ATLAS Collaboration)**
- “SUSY 3<sup>rd</sup> Generation Review”, ATLAS SUSY Workshop at Sussex (4/2016)
- “EWK SUSY Searches”, ATLAS Physics Workshop - Ready for Run-2 (11/2014)
- “Searches for electroweakinos with Higgs in the final state”, ATLAS BSM Higgs Workshop (10/2014)

- “Search for dark matter in the mono-lepton channel at the LHC”, Dark Matter @ LHC (9/2014),  
**(On behalf of the ATLAS and CMS Collaborations)**
- “ATLAS Direct Electroweak SUSY Search in 2 OS Leptons + Missing Transverse Momentum Final State”, UC Irvine Particle Physics Seminar (3/2014)
- “ATLAS Direct Electroweak Searches”, Oregon Terascale Workshop (3/2014)
- “ATLAS Direct Electroweak Searches”, CERN Collider Cross Talk (8/2013)
- “2 Leptons ( $e/\mu/\tau$ ) + MET”, ATLAS SUSY Workshop at Nikhef (4/2013)
- “New Physics searches with ATLAS”, International Conference on New Frontiers in Physics (6/2012),  
**(On behalf of the ATLAS Collaboration)**
- “Background studies and spin correlation expectations in  $t\bar{t}$  events in the  $e/\mu$  decay channel at the LHC”, American Physical Society April Meeting (5/2009), **(On behalf of the ATLAS Collaboration)**

## PROGRAMMING

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Operating Systems: Mac OS X - Linux SLC5/SLC6/CC7/Ubuntu - Windows XP/Vista/7/8/10  
 Languages: C, C++, Java, Python, Bash scripting, SQL, R,  $\text{\LaTeX}$   
 Softwares: Pythia, MC@NLO, MadGraph, Jimmy, Herwig, Herwig++, ROOT, Matlab, Mathematica, ATLAS Athena

## LANGUAGES

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TURKISH: Native  
 ENGLISH: Full Professional Proficiency  
 FRENCH: Elementary Proficiency