Alaettin Serhan Mete

Personal Data

Place and Date of Birth:	Ankara, Turkey | 30 April 1984
Address:	355 Rue Simone Veil, Saint-Genis-Pouilly, 01630, France
Phone:	+41 77 225 9483
E-mail:	serhanmete@gmail.com
Webpage:	http://www.serhanmete.net
Inspire:	A.S.Mete.1
Orcid:	0000-0002-5508-530X

Education

2006–2012	Ph.D. in Physics - **Iowa State University**, Ames, IA, USA Adviser : Prof. James H. Cochran Thesis Title : *"Search for a heavy charged gauge boson decaying to a muon and a neutrino in* 1 fb^{-1} *of proton-proton collisions at* $\sqrt{s}$ = 7 *TeV using the ATLAS Detector"*, CERN-THESIS-2012-063
2002–2006	B.Sc. in Physics, **Middle East Technical University**, Ankara, Turkey Graduation Project Supervisor : Prof. Namık Kemal PAK Graduation Project Title : *"Time Dependent Wave Packet Collisions"* High Honor Student

Positions Held

2019–	Assistant Computational Scientist, High Energy Physics Division, **Argonne National Laboratory**, IL, USA
2017–2019	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
2006–2008	Teaching Assistant, Department of Physics and Astronomy, **Iowa State University**, Ames, IA, USA

Research Experience

Computing, Software and Trigger

Convener	HEP Software Foundation Software Tools Working Group	(2018–)
Software Developer/ Convener	ATLAS Software Performance Optimization Team (SPOT)	(2017–)
Software Developer	ATLAS New Small Wheel (NSW) sTGC trigger simulation	(2015–2017)
Software Developer	ATLAS $E_{\mathrm{T}}^{\mathrm{miss}}$ Run-II EDM and reconstruction	(2014–2017)
Trigger Monitoring Expert	ATLAS Online Trigger Monitoring (*OnlineRatesChecker*)	(2011–2012)
DAQ/HLT Shifter	ATLAS Online DAQ/HLT shifts	(2010–2011)

Physics Analysis

Analyzer	ATLAS 2L $hh \to WWbb$ search	(2018–2019)
Editorial Board Member	ATLAS compressed SUSY EWK scenarios search	(2016–2019)
Analysis Contact	ATLAS Stop2L SUSY search (Moriond/LHCP 2017)	(2016–2017)
Editorial Board Member	ATLAS 2τ 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 $W' \to \ell\nu$ $\sqrt{s} = 8$ TeV search	(2014)
Analysis Contact/ Paper Editor	ATLAS $W' \to \ell\nu$ $\sqrt{s} = 7$ TeV search	(2011)

Programming

Operating Systems :	Mac OS X - Linux (e.g. SLC6/CC7/Ubuntu) - Windows (e.g. XP/Vista/7/8/10)
Languages :	C, C++, Python, Java, Bash scripting, (No)SQL, R, LaTeX
Softwares :	ATLAS Gaudi/Athena, ROOT, Valgrind (Callgrind, Memcheck, Massif), KCacheGrind, GNU Project Debugger (gdb), Perf, Intel® Parallel Studio XE, GPerfTools, CMake, Docker, Singularity

Open Source Software Projects

- Graeme A. Stewart and Alaettin Serhan Mete, "The HEP Software Foundation/PRocess MONitor (prmon)", http://doi.org/10.5281/zenodo.2556701 (2019)

Journal Publications

Computing and Software

- The HEP Software Foundation, "A Roadmap for HEP Software and Computing R&D for the 2020s", Comput. Softw. Big. Sci. (2019) 3: 7, arxiv:1712.06982 [hep-ex]

Physics Analysis

- ATLAS Collaboration, "Search for non-resonant Higgs boson pair production in the $bb\ell\nu\ell\nu$ final state with the ATLAS detector in pp collisions at $\sqrt{s} = 13$ TeV", Phys. Lett. **B801** (2020) 135145, arxiv:1908.06765 [hep-ex]
- 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 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 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]

Notes, Proceedings and Reports

Computing and Software

- ATLAS Collaboration, "Performance of Multi-threaded Reconstruction in ATLAS", ATL-SOFT-PUB-2021-002 (2021)
- ATLAS Collaboration, "Software Performance of the ATLAS Track Reconstruction for LHC Run 3", ATL-PHYS-PUB-2021-012 (2021)
- The HEP Software Foundation "HL-LHC Computing Review: Common Tools and Community Software", arxiv:2008.13636 [hep-ex] (2020)
- Douglas Benjamin *et al.*, " ATLAS I/O and Data Persistence Roadmap", ATL-SOFT-INT-2019-001 (2019) (ATLAS Internal)
- Tae Min Hong, Alaettin Serhan Mete, Joerg Stelzer, and Tomasz Bold, "Event-loss monitoring for Trigger and DAQ systems", ATL-COM-DAQ-2011-062 (2011) (ATLAS Internal)

Physics Analysis

- A. S. Mete, "Searches for Higgsinos and related challenges in ATLAS", 53$^{\text{rd}}$ 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 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 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 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 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)

Selected Talks

Computing and Software

- "Update on Shared Writer", ATLAS Core Software Meeting (2/2021)
- "Threading Analysis", ATLAS Software & Computing Week Core Software Session (1/2021)
- "PrMon Service Status", WLCG Grid Deployment Board (9/2020)
- "Release 22 CPU and Memory Performance", ATLAS Weekly (9/2020)
- "Software Performance and Lossy Compression", ATLAS Software & Computing Week Plenary (2/2020)
- "Software Performance and Optimization", ATLAS Weekly (2/2020)
- "Highlights from HEP Software Foundation Workshop", ATLAS Weekly/Open EB (4/2019)
- "Metrics, Measurements and Tools", 2019 Joint HSF/OSG/WLCG Workshop (3/2019)
- "Software Performance Optimization Group Report", ATLAS Software & Computing Week Plenary (12/2018)
- "Multi-process/thread Safe Performance Monitoring/Profiling", Trigger Core Software (8/2018)
- "Meltdown-Spectre: Updates on Performance Measurements", HEPiX Benchmarking Working Group (01/2018)
- "Technical Performance Comparison between Release 21.0 and Master", AthenaMT Developer Workshop (9/2017)
- "sTGC Software Status Report", Muon & NSW Software Session @ Muon Week (2/2017)
- "$E_{\mathrm{T}}^{\mathrm{miss}}$ Event Data Model", ATLAS Offline Software Tutorial (9/2015)

Physics Analysis

- "Higgsino searches and related challenges in ATLAS", 53$^{\mathrm{rd}}$ 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$^{\mathrm{rd}}$ 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/μ decay channel at the LHC", American Physical Society April Meeting (5/2009), **(On behalf of the ATLAS Collaboration)**