

# Süleyman Cenk YILDIZ

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## Summary

I am a Doctor of physics with 7 years experience in experimental particle physics, with focus on the following areas: particle detectors(commissioning, installation, hardware maintenance, data acquisition, performance tests and analysis), physics analysis and data acquisition/readout systems.

## Professional Experience

Dec 2014 - now	<i>University of California, Irvine</i> , Post Doctoral Scholar ATLAS Experiment Muon Spectrometer <ul style="list-style-type: none"><li>•<b>Operations:</b> Day-to-day operation of the CSC Run-II off detector readout system.</li><li>•<b>Integration with ATLAS Trigger-DAQ (TDAQ):</b> Integration of the CSC off-detector readout system with the TDAQ infrastructure, implementation of recovery and monitoring systems.</li><li>•<b>Hardware:</b> Creation of a test stand, hardware installation and optical power measurements.</li><li>•<b>Performance Tests:</b> Carried out performance tests.</li><li>•<b>On-call responsibilities:</b> CSC DAQ secondary on-call, MDT/CSC primary on-call duties.</li><li>•<b>Documentation/Training:</b> Prepared extensive documentation on various parts of the system,</li><li>•<b>Monitoring:</b> Implementation of monitoring applications to monitor system status.</li><li>•<b>Coordination:</b> Carried out Muon DAQ Coordination task, coordinating muon sub-systems on DAQ related issues</li><li>•<b>ATLAS Operations:</b> Took Run Manager shifts, organizing the general scheduling of ATLAS ATLAS Experiment Trigger and Data Acquisition System</li><li>•<b>HLT Monitoring:</b> Development of tools to archive HLT rates and access them in Athena framework.</li><li>•<b>ATLAS Event Monitoring:</b> Improved event monitoring in terms of efficiency and network optimization.</li></ul>
Feb 2014 - Dec 2014	<i>CERN - Beam Line for Schools</i> , Project Associate <a href="http://cern.ch/bl4s">http://cern.ch/bl4s</a> <ul style="list-style-type: none"><li>•<b>Detector Responsible:</b> Main responsible of the detectors that is used in the beam line, such as Delay Wire Chambers, Lead Glass Calorimeters, Scintillators, Cherenkov Counters. The responsibility consists of testing, calibration, commissioning, installation and analysis of detectors.</li><li>•<b>DAQ:</b> Implemented a modular acquisition and monitoring software using NIM and VME systems on hardware, and ATLAS TDAQ Framework on the software side.</li><li>•<b>Analysis:</b> Developed a C++ and ROOT based analysis software.</li><li>•<b>Organization:</b> Organized meetings with experts/technicians, handled gas installation for detectors, radioactive source loans and mechanical/electrical work.</li></ul>

**•Installation and running of the experiment:** The experimental setup is installed at East Area, T9 beamline and 2 different experiments was run for a week, during which beam parameters were manipulated according to needs of experiments.

**•Documentation:** Prepared detailed documentation and Twiki pages about every aspect of the project to ensure the knowledge transfer for next years.

2009 - 2014

*CERN - CERN Axion Solar Telescope*, Doctoral Researcher

As part of my doctoral studies, I worked in the CAST experiment, spending most of my time in CERN. My responsibilities consisted of:

**•Micromegas detectors:** Took responsibility of 2 micromegas detectors for installation and maintenance, data analysis, data acquisition system, upgrades and vacuum system. Did the full analysis of the detectors for the data taken in 2008, and the results are used in all CAST papers.

**•Computational Fluid Dynamics(CFD) Simulations:** Run CFD simulations together with CERN EN-CV group, analysed and interpreted the results.

**•Analysis:** Developed new methods for interpreting CAST data.

**•Shift/Run Coordination:** Did the shift coordination during 2012, and run coordination during several periods of data taking as the on-call responsible of the experiment.

**•CAST Slow Control System:** Been the main responsible of the Labview based acquisition system for hardware maintenance, installation of new sensors and software upgrades.

**•Magnet movement system:** Organized and analysed Grid/Survey measurements which assure the CAST magnets solar tracking accuracy, developed new analysis methods, assisted the Solar Filming.

**•CAST Contact person:** Trained official CERN guides at CAST, maintained the visitor area, updated CAST posters, maintained the CAST official website.

2009 - 2012

*Bogazici University*, Teaching Assistant, Part-time

Taught laboratory courses on introductory physics and electronics.

2003 - 2005 ,

*Koc University*, Laboratory Research Assistant

Assisted laboratory experiments in the electronics laboratory.

2003 ,

*Koc University*, Laboratory Assistant

Assisted laboratory courses on introductory physics.

## Education and Qualifications

2009 - 2013

*PhD. in Physics, Bogazici University & CERN Axion Solar Telescope*

*Thesis Title:* Search for Axions with Micromegas Detectors in the CERN CAST Experiment [CERN-THESIS-2013-205]

Supervisor: Prof. Metin Arik

2005 - 2008,

*M.S. in Physics, Bogazici University*

*Thesis Title:* Unitary Matrix Hopf Algebras and Theta-Deformed Fermion Algebra

Supervisor: Prof. Metin Arik

2000 - 2005 , *B.S. in Physics, Koc University* Graduated as top ranking student.

## Technical Skills

Programming : *C++, Python, ROOT, HTML, Bash*

Data Acquisition : *NIM, VME, Labview, ATLAS TDAQ Framework*  
 Operating Systems: *Linux, Windows*  
 Office Software : *MS. Office, Libreoffice, Openoffice*  
 Other : *Doxxygen, Git, CMake, Django, L<sup>A</sup>T<sub>E</sub>X*

## Trainings and Courses

2013 June	tCSC - Thematic CERN School of Computing on High Performance Computing, Split
2012 August	Euroscipy - European Conference for Scientists Using Python - Advanced Tutorial, Brussels
2011 January	ISTAPP - International School of Theory and Analysis in Particle Physics, Istanbul
2010 July	Euroscipy - European Conference for Scientists Using Python - Basic Tutorial, Paris
2010 January	ISOTDAQ - International School on Trigger and Data Acquisition, Ankara
2009 September	LabVIEW Basics I-II Course, CERN, Geneva

## Talks/Posters

*A New ATLAS Muon CSC Readout System with System on Chip Technology on ATCA Platform*  
 Topical Workshop on Electronics for Particle Physics, Lisbon, 2015

*X-Ray Detectors of the CAST Experiment*  
 13th Topical Seminar on Innovative Particle and Radiation Detectors, Siena, 2013

*Performance of micromegas detectors in the CAST Experiment*  
 2nd International Conference on Particle Physics, Istanbul, 2011

## Language Skills

Turkish, Native  
 English, Fluent  
 French, Intermediate  
 Spanish, Intermediate

## Awards and Honors

2012	Berkol Dogan Award - Bogazici University Physics Department
2005-2007	TUBITAK Domestic Scholarship for Masters
2005	Top Ranking Student Award - Koc University Physics Department
2000-2005	Vehbi Koc Scholarship - Koc University

## Personal

A1 and B driving licence.  
 Official CERN guide since 2011.