

# Süleyman Cenk YILDIZ

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## Summary

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

## Professional Experience

Dec 2014 - now *University of California, Irvine*, Post Doctoral Scholar/Project Scientist at the ATLAS Experiment

In my current post, I carry responsibilities in Muon Spectrometer and Trigger and Data Acquisition of the ATLAS Experiment.

### Muon Spectrometer - CSC Run-II Readout System:

- **Commissioning and Integration:** Commissioning of the CSC Run-II off-detector readout system, integration with the TDAQ infrastructure, implementation of recovery and monitoring systems, performance tests.
- **Operations:** Day-to-day operation of the CSC Run-II off detector readout system.
- **Hardware:** Setting up a test stand of the readout system, hardware installation and optical power measurements.
- **On-call responsibilities:** CSC DAQ on-call, MDT/CSC primary on-call duties.
- **Coordination:** Carrying out Muon DAQ Coordination task since 2016, coordinating muon sub-systems on DAQ related issues

### Muon Spectrometer - Upgrade:

- **Commissioning and Integration:** Integration testing of New Small Wheel(NSW) front end board.
- **Software:** Development of configuration framework for NSW project

### Trigger and Data Acquisition System:

- **Operations:** DAQ/HLT on-call duties.
- **ATLAS Event Monitoring:** Working on event monitoring, improving its efficiency in terms of network utilization.
- **High Level Trigger:** Design and development of HLT Processing Unit software for ATLAS Phase-I, development of monitoring tools to archive HLT rates.

### Other:

- **Run Manager:** ATLAS Run Manager duty for few weeks in 2016, organizing the general scheduling of ATLAS

- Feb - Dec 2014    *CERN - Beam Line for Schools*, Project Associate (<http://cern.ch/bl4s>)  
I worked as a Project Scientist in the first year of Beam Line For Schools as part of a small team.
- **Detector Responsible:** Responsible of the detectors that is used in the beam line, such as Delay Wire Chambers, Lead Glass Calorimeters, Scintillators, Cherenkov Counters. The responsibility consisted of testing, calibration, commissioning, installation and analysis of detectors.
  - **DAQ:** Implementing an acquisition and monitoring software using NIM and VME systems on hardware, and ATLAS TDAQ Framework on the software side.
  - **Analysis:** Developing a C++ and ROOT based analysis software.
  - **Organization:** Organizing meetings with experts/technicians, handling gas installation for detectors, radioactive source loans and mechanical/electrical work.
  - **Installation and running of the experiment**
- 2009 - 2014    *Bogazici University/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.
- **Micromegas detectors:** Responsible of 2 micromegas detectors for installation and maintenance, data analysis, data acquisition system, upgrades and vacuum system. I did the analysis of the detectors for the data taken in 2008. The results are used in my PhD thesis and all relevant CAST papers.
  - **Analysis:** Developing new analysis methods for interpreting CAST data.
  - **Shift/Run Coordination:** Shift coordination during 2012, and run coordination during several periods of data taking.
  - **CAST Slow Control System:** Main responsible of the Labview based acquisition system for hardware maintenance, installation of new sensors and software upgrades.
  - **Magnet movement system:** Organizing and analysing Grid/Survey measurements which assure the CAST magnets solar tracking accuracy, developing new analysis methods.
  - **CAST Contact person:** Training official CERN guides at CAST, maintaining the visitor area, updating CAST posters, maintaining 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 Arık
- 2005 - 2008    *M.S. in Physics, Bogazici University*  
*Thesis Title:* Unitary Matrix Hopf Algebras and Theta-Deformed Fermion Algebra  
 Supervisor: Prof. Metin Arık
- 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 : *Doxygen, 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 in Conferences

- 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 Doğan 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.