

# Baojia(Tony) Tong

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## Education

**Harvard University**, Massachusetts, MA

Ph.D., Physics, expected May 2017

M.A., Physics, 2014

Committee: Profs. Melissa Franklin (Adviser), Masahiro Morii, Howard Georgi

**California Institute of Technology**, California, CA

B.A. with honors, Physics, 2012

## Research Interests

Searches for new physics models with the Higgs Boson

Di-boson production and measurement at TeV scale

Charged particle prompt reconstruction

Detector operation, monitoring and upgrade development

## Research Experience

### Harvard University

|   |           |
|---|-----------|
| Main analyzer, $X \rightarrow$ boosted $hh \rightarrow b\bar{b}b\bar{b}$ using ATLAS 13TeV data | 2015-2016 |
| Main developer, Improvement of Segment Seeding in Muon Reconstruction                           | 2015-2016 |
| Main developer, Muon Reconstruction Offline Data Quality Monitoring                             | 2015-2016 |
| Expert and organizer, Muon Offline Data Quality Monitoring                                      | 2015      |
| Main analyzer, Prospective study of $hh \rightarrow WW\tau\tau$ for High Lumi LHC               | 2014      |
| Calibration of Harvard Micromega Cosmic Test Stand  | 2014      |
| Study of Muon Segments in ATLAS detector using 8TeV data  | 2012-2013 |

### California Institute of Technology

|   |           |
|---|-----------|
| Study of Vector Boson + Jets using CMS 8TeV data          | 2011-2012 |
| Design and validation of an optical sensor for telescopes | 2009-2010 |
| Design experiment and study of market convergence         | 2009-2010 |
| Modeling on novel methods of space launching              | 2008-2009 |

## Publications and Talks

### Paper

[Search for pair production of Higgs bosons in the  \$b\bar{b}b\bar{b}\$  final state](#) 2016

### Public Notes

[ATLAS-CONF-2016-049](#),  $hh \rightarrow 4b$  2016 summer

[ATLAS-CONF-2016-017](#),  $hh \rightarrow 4b$  2016 spring

### Public Talks

[hh  \$\rightarrow\$  4b](#), Higgs Boson And BSM China 2016

### ATLAS Talks

[hh  \$\rightarrow\$  4b](#), analysis ICHEP ATLAS Approval 2016

[hh  \$\rightarrow\$  4b](#), analysis ICHEP Exotics Approval 2016

[hh  \$\rightarrow\$  4b/bb \$\tau\tau\$ /bbWW](#), Exotics Workshop, Grenoble 2016

[Muon Segment Seeding](#), Muon Week, Software 2016

[Muon Hough Transform Tuning](#), Muon Week, Software 2015

[Muon Spectrometer and DQ Status](#), ATLAS Weekly 2015

[Muon DQ 2015 Summary](#), Muon Week, Operations 2015

[Muon DQ Pre Run II Status](#), Muon Week, Operations 2015

[Muon DQ Shifter Manual](#) 2015

## Teaching Exprience

### Physics Department, Harvard University

Mentoring undergraduate students research during summer 2015-2016

Teaching Fellow, Physics 125, Widely Applied Physics 2014

Teaching Fellow, Physics 16, Classical Mechanics and Relativity 2013

### Physics Department, California Institute of Technology

Teaching Assistant, Physics 50, Physics League 2011-2012

## Honors

Harvard White Teaching Prize for Physics 16 2014

Harvard Traveling Scholar 2015-2016

Caltech Undergrad Summer Research Fellowship 2009-2012

## Languages and Skills

Chinese (native), English (proficient), French (elementary)

C++, HTML,  $\text{\LaTeX}$ , Matlab, Mathematica, Python, ROOT

## References

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Dr. Michael Kagan  
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Professor Melissa Franklin  
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Professor Mel Shochet  
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