

**Charting the Unknown:  
interpreting LHC data from  
the energy frontier**

**Report of Contributions**

Contribution ID: 2

Type: **not specified**

## The QCD Axion, Precisely

*Monday, 25 July 2016 10:00 (45 minutes)*

**Presenter:** VILLADORO, Giovanni (Abdus Salam Int. Cent. Theor. Phys. (IT))

**Session Classification:** 1.Chair: R. Contino

Contribution ID: 3

Type: **not specified**

## **Axion searches by way of their coupling to the electron spin**

*Monday, 25 July 2016 10:45 (45 minutes)*

### **Summary**

**Presenter:** BARBIERI, Riccardo (Scuola Normale Superiore, Pisa)

**Session Classification:** 1.Chair: R. Contino

Contribution ID: 4

Type: **not specified**

## **A visible QCD axion**

*Monday, 25 July 2016 11:30 (45 minutes)*

**Presenter:** GHERGHETTA, Tony (University of Minnesota (US))

**Session Classification:** 1.Chair: R. Contino

Contribution ID: 5

Type: **not specified**

## **Effective-Field-Theory Approach of the Anomalous Triple Gauge Couplings at the LHC**

*Tuesday, 26 July 2016 10:00 (45 minutes)*

**Presenter:** SON, Minho (Ecole Polytechnique Federale de Lausanne (CH))

**Session Classification:** 2.Chair: A. Carmona

Contribution ID: 6

Type: **not specified**

## **On the challenge of estimating diphoton backgrounds at large invariant mass**

*Tuesday, 26 July 2016 10:45 (45 minutes)*

**Presenter:** PEREZ, Gilad (Weizmann Institute)

**Session Classification:** 2.Chair: A. Carmona

Contribution ID: 7

Type: **not specified**

## **Small Weak Scale from Small Cosmological Constant**

*Tuesday, 26 July 2016 11:30 (45 minutes)*

### **Summary**

**Presenter:** GORBENKO, Victor (Stanford)

**Session Classification:** 2.Chair: A. Carmona

Contribution ID: 8

Type: **not specified**

## **Theory Colloquium - Fundamental Physics beyond Colliders**

*Wednesday, 27 July 2016 14:00 (1 hour)*

**Presenter:** ARVANITAKI, Asimina (Perimeter Institute)



Contribution ID: 9

Type: **not specified**

## **You can hide but you have to run: direct detection with vector mediators**

*Thursday, 28 July 2016 10:00 (45 minutes)*

### **Summary**

**Presenter:** D'ERAMO, Francesco (University of California, Santa Cruz)

**Session Classification:** 3.Chair: A. Urbano

Contribution ID: **10**

Type: **not specified**

## **Dark matter beams at proton fixed target experiments**

*Thursday, 28 July 2016 10:45 (45 minutes)*

**Presenter:** FRUGIUELE, claudia (Carleton University)

**Session Classification:** 3.Chair: A. Urbano

Contribution ID: 11

Type: **not specified**

# Interacting dark matter and dark radiation and cosmic discordance

*Thursday, 28 July 2016 11:30 (45 minutes)*

## Summary

**Presenter:** SCHMALTZ, Martin (Boston University)

**Session Classification:** 3.Chair: A. Urbano

Contribution ID: 12

Type: **not specified**

## A natural quantum critical higgs

*Friday, 29 July 2016 10:00 (45 minutes)*

### Summary

**Presenter:** LEE, Seung J. (Korea University)

**Session Classification:** 4. Chair: M. McCullough

Contribution ID: 13

Type: **not specified**

## The lifetime frontier

*Friday, 29 July 2016 10:45 (45 minutes)*

**Presenter:** CURTIN, David (University of Maryland)

**Session Classification:** 4. Chair: M. McCullough

Contribution ID: 14

Type: **not specified**

## Superradiance

*Friday, 29 July 2016 11:30 (45 minutes)*

### Summary

**Presenter:** DIMOPOULOS, Savas (Stanford)

**Session Classification:** 4. Chair: M. McCullough

Contribution ID: 15

Type: **not specified**

## Theory Colloquium - New ideas in dark matter direct detection

*Wednesday, 3 August 2016 14:00 (1 hour)*

Searches for massive dark matter have largely focused on the WIMP window. This window will become increasingly closed by the unprecedented sensitivity of direct detection experiments in coming years. At the same time, lighter dark matter candidates in a hidden sector are theoretically well-motivated, natural and arise generically in many theories beyond the standard model. New ideas are needed to search for dark matter with mass below a GeV and as light as the warm dark matter limit of a keV. We propose new ideas to search for light dark matter with superconductors, graphene and superfluid helium.

### Summary

**Presenter:** ZUREK, Kathryn (LBNL)

Contribution ID: 16

Type: **not specified**

## **Non-standard resonance searches at the LHC**

*Monday, 1 August 2016 10:00 (45 minutes)*

### **Summary**

**Presenter:** KONG, K.C. (University of Kansas)

**Session Classification:** Session 1



Contribution ID: 17

Type: **not specified**

## **ABRACADABRA: A new approach to axion dark-matter direct detection**

*Monday, 1 August 2016 10:45 (45 minutes)*

**Presenter:** SAFDI, Benjamin (massachusetts institute of technology)

**Session Classification:** Session 1

Contribution ID: **18**

Type: **not specified**

## **The Inelastic Frontier of Dark Matter**

*Monday, 1 August 2016 11:30 (45 minutes)*

**Presenter:** KRIBS, Graham (University of Oregon)

**Session Classification:** Session 1

Contribution ID: 19

Type: **not specified**

## **Towards Precision Theoretical Constraints on Additional Higgs Bosons**

*Tuesday, 2 August 2016 11:30 (45 minutes)*

**Presenter:** GRINSTEIN, Benjamin (Univ. of California San Diego (US))

**Session Classification:** Session 2

Contribution ID: 20

Type: **not specified**

## **Relaxation from Particle Production**

*Tuesday, 2 August 2016 10:45 (45 minutes)*

**Presenter:** HOOK, Anson (Stanford)

**Session Classification:** Session 2

Contribution ID: 21

Type: **not specified**

## **New Tools for Relaxion Models**

*Tuesday, 2 August 2016 10:00 (45 minutes)*

### **Summary**

**Presenter:** KAPLAN, David (Johns Hopkins University)

**Session Classification:** Session 2

Contribution ID: 22

Type: **not specified**

## **Twin Higgs meets SUSY: the soft, the hard and the ugly**

*Thursday, 4 August 2016 10:15 (45 minutes)*

**Presenter:** REDIGOLO, Diego (LP THE, Paris)

**Session Classification:** Session 3

Contribution ID: 23

Type: **not specified**

## Recent progress in Neutral Naturalness

*Thursday, 4 August 2016 11:20 (45 minutes)*

**Presenter:** CRAIG, Nathaniel (UC Santa Barbara)

**Session Classification:** Session 3

Contribution ID: 24

Type: **not specified**

# Twin Higgs Cosmology

*Thursday, 4 August 2016 12:05 (45 minutes)*

**Presenter:** HARNIK, Roni (Fermilab)

**Session Classification:** Session 3



Contribution ID: 25

Type: **not specified**

## Unified Froggatt-Nielsen-Nelson-Barr-Ogenesis

### Summary

**Presenter:** THOMAS, Scott David (Rutgers, State Univ. of New Jersey (US))

**Session Classification:** Session 4

Contribution ID: 26

Type: **not specified**

## **A monodromy from London**

*Friday, 5 August 2016 10:30 (45 minutes)*

**Presenter:** KALOPER, Nemanja (UC Davis)

**Session Classification:** Session 4

Contribution ID: 27

Type: **not specified**

## **Classification of Effective Operators Using Conformal Group**

**Presenter:** MURAYAMA, Hitoshi (University of California Berkeley (US))

**Session Classification:** Session 4

Contribution ID: 28

Type: **not specified**

## Diphoton Searches at CMS

*Friday, 5 August 2016 17:30 (30 minutes)*

**Presenter:** BENDAVID, Josh (California Institute of Technology (US))

**Session Classification:** Session 5

Contribution ID: 29

Type: **not specified**

## Diphoton Searches at ATLAS

*Friday, 5 August 2016 17:00 (30 minutes)*

**Presenter:** CARMINATI, Leonardo (Università degli Studi e INFN Milano (IT))

**Session Classification:** Session 5

Contribution ID: **30**

Type: **not specified**

## **Discussion**

*Friday, 5 August 2016 18:00 (30 minutes)*

### **Summary**

**Session Classification:** Session 5

Contribution ID: 31

Type: **not specified**

## **Classification of Effective Operators Using Conformal Group**

*Thursday, 4 August 2016 09:30 (45 minutes)*

**Presenter:** MURAYAMA, Hitoshi (University of California Berkeley (US))

**Session Classification:** Session 3

Contribution ID: 32

Type: **not specified**

## **SUSY searches at CMS**

*Monday, 8 August 2016 09:30 (20 minutes)*

**Presenter:** MOORTGAT, Filip (CERN)

**Session Classification:** Session 1



Contribution ID: 33

Type: **not specified**

## **SUSY searches at ATLAS**

*Monday, 8 August 2016 09:50 (20 minutes)*

**Presenter:** LARI, Tommaso (University and INFN, Milano)

**Session Classification:** Session 1

Contribution ID: **34**

Type: **not specified**

## **Discussion**

*Monday, 8 August 2016 10:10 (20 minutes)*

**Session Classification:** Session 1

Contribution ID: 35

Type: **not specified**

## **Exotica searches at ATLAS**

*Monday, 8 August 2016 10:50 (20 minutes)*

**Presenter:** TERASHI, Koji (University of Tokyo (JP))

**Session Classification:** Session 1

Contribution ID: 36

Type: **not specified**

## **Exotica searches at CMS**

*Monday, 8 August 2016 11:10 (20 minutes)*

**Presenter:** HARRIS, Philip Coleman (CERN)

**Session Classification:** Session 1

Contribution ID: 37

Type: **not specified**

## Discussion

*Monday, 8 August 2016 11:30 (20 minutes)*

**Session Classification:** Session 1

Contribution ID: **38**

Type: **not specified**

## **Higgs searches at CMS**

*Monday, 8 August 2016 11:50 (20 minutes)*

**Presenter:** GOMEZ CEBALLOS RETUERTO, Guillelmo (Massachusetts Inst. of Technology (US))

**Session Classification:** Session 1

Contribution ID: 39

Type: **not specified**

## Higgs searches at ATLAS

*Monday, 8 August 2016 12:10 (20 minutes)*

**Presenter:** BERGER, Nicolas (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Session 1

Contribution ID: 40

Type: **not specified**

## Discussion

*Monday, 8 August 2016 12:30 (20 minutes)*

**Session Classification:** Session 1



Contribution ID: 41

Type: **not specified**

## Lessons from a flash in the pan

*Tuesday, 9 August 2016 09:30 (45 minutes)*

**Presenter:** STRASSLER, Matthew (Harvard University)

**Session Classification:** Session 2

Contribution ID: 42

Type: **not specified**

## **Bounds on Amplitudes and EFTs**

*Tuesday, 9 August 2016 10:15 (45 minutes)*

**Presenter:** BELLAZZINI, Brando (CEA-Saclay)

**Session Classification:** Session 2

Contribution ID: 43

Type: **not specified**

# Exact Results in QFT: Asymptotically Safe Quantum Field Theories

*Tuesday, 9 August 2016 11:20 (45 minutes)*

## Summary

**Presenter:** SANNINO, Francesco (CP3-Origins)

**Session Classification:** Session 2

Contribution ID: 44

Type: **not specified**

## **Theory Colloquium - Spacetime, Quantum Mechanics and the LHC**

*Wednesday, 10 August 2016 14:00 (1 hour)*

### **Summary**

**Presenter:** ARKANI-HAMED, Nima (IAS)

Contribution ID: 45

Type: **not specified**

# Loop suppressed electroweak symmetry breaking and naturally heavy superpartners

*Thursday, 11 August 2016 10:00 (45 minutes)*

## Summary

**Presenter:** DERMISEK, Radovan (Indiana University)

**Session Classification:** Session 3

Contribution ID: 46

Type: **not specified**

## **BSM and GW**

*Thursday, 11 August 2016 10:45 (45 minutes)*

**Presenter:** URBANO, Alfredo Leonardo (CERN)

**Session Classification:** Session 3

Contribution ID: 47

Type: **not specified**

## Nnaturalness

*Thursday, 11 August 2016 11:30 (45 minutes)*

**Presenter:** COHEN, Timothy (University of Oregon)

**Session Classification:** Session 3

Contribution ID: 48

Type: **not specified**

## **Non-conventional objects for collider phenomenology: Jet-like objects and their application**

*Friday, 12 August 2016 10:00 (45 minutes)*

**Presenter:** PARK, Myeonghun (Institute for Basic Science, CTPU)

**Session Classification:** Session 4



Contribution ID: 49

Type: **not specified**

## Higgs and Flavor

*Friday, 12 August 2016 10:45 (45 minutes)*

**Presenter:** ZUPAN, Jure (University of Cincinnati)

**Session Classification:** Session 4

Contribution ID: 50

Type: **not specified**

## Physics at future colliders

*Friday, 12 August 2016 11:30 (45 minutes)*

**Presenter:** WANG, LianTao (University of Chicago)

**Session Classification:** Session 4

Contribution ID: 51

Type: **not specified**

## Landscape dynamics

*Tuesday, 9 August 2016 12:05 (45 minutes)*

### Summary

**Presenter:** ARKANI-HAMED, Nima (IAS)

**Session Classification:** Session 2