

# WATCHMAN Collaboration Meeting 2019



## Report of Contributions

Contribution ID: 6

Type: **not specified**

## Project and Meeting Overview

*Friday, January 11, 2019 8:30 AM (30 minutes)*

**Primary author:** BERNSTEN, Adam

**Presenter:** BERNSTEN, Adam

**Session Classification:** Full Collaboration Meeting

Contribution ID: 7

Type: **not specified**

## **Project Management Overview - Subsystem Leads and CDR process**

*Friday, January 11, 2019 9:00 AM (25 minutes)*

**Primary author:** HILLS, Rob

**Presenter:** HILLS, Rob

**Session Classification:** Full Collaboration Meeting

Contribution ID: 8

Type: **not specified**

## Reference Detector Design

*Friday, January 11, 2019 9:25 AM (25 minutes)*

**Primary author:** MAUGER, Chris

**Presenter:** MAUGER, Chris

**Session Classification:** Full Collaboration Meeting

Contribution ID: 9

Type: **not specified**

## **Boulby Site Update**

*Friday, January 11, 2019 9:50 AM (20 minutes)*

**Primary author:** PALING, Sean (Boulby Underground Science Facility)

**Presenter:** PALING, Sean (Boulby Underground Science Facility)

**Session Classification:** Full Collaboration Meeting

Contribution ID: **10**

Type: **not specified**

## **AWE Status Update**

*Friday, January 11, 2019 10:10 AM (20 minutes)*

**Primary author:** BURNS, Jon (AWE plc)

**Presenter:** BURNS, Jon (AWE plc)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 11

Type: **not specified**

## **U.S. Academic Status**

*Friday, January 11, 2019 10:50 AM (20 minutes)*

**Presenter:** VAGINS, Mark

**Session Classification:** Full Collaboration Meeting

Contribution ID: 12

Type: **not specified**

## **U.K. Academic Status**

*Friday, January 11, 2019 11:10 AM (20 minutes)*

**Presenter:** MALEK, Matthew

**Session Classification:** Full Collaboration Meeting



Contribution ID: 13

Type: **not specified**

## **Analysis overview and sensitivity goals**

*Friday, January 11, 2019 1:00 PM (30 minutes)*

**Primary author:** Dr BERGEVIN, Marc (LLNL)

**Presenter:** Dr BERGEVIN, Marc (LLNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 14

Type: **not specified**

## **Blind analysis for on/off cycle observation**

*Friday, January 11, 2019 1:30 PM (20 minutes)*

**Primary author:** GRIBBLE, Jeremy

**Presenter:** GRIBBLE, Jeremy

**Session Classification:** Full Collaboration Meeting

Contribution ID: 15

Type: **not specified**

## **Unblind analysis for on/off cycle observation**

*Friday, January 11, 2019 1:50 PM (20 minutes)*

**Presenter:** PERSHING, Teal

**Session Classification:** Full Collaboration Meeting

Contribution ID: 16

Type: **not specified**

## **Initial study of extrapolation to large detectors/long standoff**

*Friday, January 11, 2019 2:10 PM (20 minutes)*

**Primary author:** Dr LI, Viacheslav (LLNL)

**Presenter:** Dr LI, Viacheslav (LLNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 17

Type: **not specified**

## **Effect of systematics on on/off cycle observation**

*Friday, January 11, 2019 2:30 PM (20 minutes)*

**Primary author:** Ms KNEALE, Elisabeth (University of Sheffield)

**Presenter:** Ms KNEALE, Elisabeth (University of Sheffield)

**Session Classification:** Full Collaboration Meeting

Contribution ID: **18**

Type: **not specified**

## **Nudar @ WATCHMAN**

*Friday, January 11, 2019 2:50 PM (25 minutes)*

**Presenter:** LEARNED, John (University of Hawaii)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 19

Type: **not specified**

## **Nonproliferation Treaties Overview and context (remote presentation)**

*Friday, January 11, 2019 3:30 PM (30 minutes)*

**Presenter:** DALNOKI-VERESS, Ferenc

**Session Classification:** Full Collaboration Meeting

Contribution ID: **20**

Type: **not specified**

## **Discussion**

*Friday, January 11, 2019 4:30 PM (30 minutes)*

Full Collaboration

**Session Classification:** Full Collaboration Meeting



Contribution ID: **21**

Type: **not specified**

## The WATCHMAN Logo

if available

**Session Classification:** Full Collaboration Meeting

Contribution ID: 23

Type: **not specified**

## CDR Overview

*Saturday, January 12, 2019 8:30 AM (45 minutes)*

**Primary author:** HILLS, Rob (LLNL)

**Presenter:** HILLS, Rob (LLNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 24

Type: **not specified**

## Detector Integration

Contribution ID: 25

Type: **not specified**

## Test Program

*Saturday, January 12, 2019 9:15 AM (30 minutes)*

**Primary author:** Mr PAPATYI, Tony (PNNL)

**Presenter:** Mr PAPATYI, Tony (PNNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 26

Type: **not specified**

## Cleanliness Program

*Friday, January 11, 2019 4:00 PM (30 minutes)*

**Primary author:** DYE, Stephen (Hawaii Pacific Univesity)

**Presenter:** DYE, Stephen (Hawaii Pacific Univesity)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 27

Type: **not specified**

## Calibration Program Overview

*Saturday, January 12, 2019 10:00 AM (10 minutes)*

**Primary authors:** MAUGER, Chris; Dr DAZELEY, Steve (LLNL)

**Presenters:** MAUGER, Chris; Dr DAZELEY, Steve (LLNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 28

Type: **not specified**

## Site

*Saturday, January 12, 2019 11:00 AM (30 minutes)*

**Presenter:** BURNS, Jon

**Session Classification:** Full Collaboration Meeting

Contribution ID: 29

Type: **not specified**

## Tank

*Saturday, January 12, 2019 1:15 PM (30 minutes)*

**Primary author:** SPOONER, Neil (University of Sheffield)

**Presenter:** SPOONER, Neil (University of Sheffield)

**Session Classification:** Full Collaboration Meeting



Contribution ID: **30**

Type: **not specified**

## **PMTs**

*Saturday, January 12, 2019 1:45 PM (30 minutes)*

**Primary author:** SVOBODA, Robert (UC Davis)

**Presenter:** SVOBODA, Robert (UC Davis)

**Session Classification:** Full Collaboration Meeting

Contribution ID: **31**

Type: **not specified**

## **DAQ**

*Saturday, January 12, 2019 2:15 PM (30 minutes)*

**Primary author:** COWEN, Doug (Penn State)

**Presenter:** COWEN, Doug (Penn State)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 32

Type: **not specified**

## REBAM

*Saturday, January 12, 2019 2:45 PM (30 minutes)*

**Primary authors:** MAUGER, Chris; BARROS, Nuno (University of Pennsylvania )

**Presenters:** MAUGER, Chris; BARROS, Nuno (University of Pennsylvania )

**Session Classification:** Full Collaboration Meeting

Contribution ID: **33**

Type: **not specified**

## **HV**

*Saturday, January 12, 2019 3:30 PM (30 minutes)*

**Primary author:** GRANT, Chris (Boston University)

**Presenter:** GRANT, Chris (Boston University)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 34

Type: **not specified**

## Water System

*Saturday, January 12, 2019 4:00 PM (30 minutes)*

**Primary author:** VAGINS, Mark

**Presenter:** VAGINS, Mark

**Session Classification:** Full Collaboration Meeting

Contribution ID: 35

Type: **not specified**

## Simulations Overview

*Saturday, January 12, 2019 4:30 PM (15 minutes)*

**Primary author:** BERGEVIN, Marc

**Presenter:** BERGEVIN, Marc

**Session Classification:** Full Collaboration Meeting

Contribution ID: 36

Type: **not specified**

## **Future R & D**

*Sunday, January 13, 2019 8:30 AM (30 minutes)*

**Primary authors:** GRANT, Chris (Boston University); Dr MALEK, Matthew (University of Sheffield )

**Presenters:** GRANT, Chris (Boston University); Dr MALEK, Matthew (University of Sheffield )

**Session Classification:** Full Collaboration Meeting

Contribution ID: 37

Type: **not specified**

## Discussion

*Sunday, January 13, 2019 9:00 AM (1 hour)*

**Session Classification:** Full Collaboration Meeting



Contribution ID: **38**

Type: **not specified**

## Publications Board

*Sunday, January 13, 2019 10:15 AM (15 minutes)*

**Primary author:** Prof. GANN, Gabriel Orebi (UC Berkeley / LBNL)

**Presenter:** Prof. GANN, Gabriel Orebi (UC Berkeley / LBNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 39

Type: **not specified**

## Conceptual Design Paper

*Sunday, January 13, 2019 10:30 AM (10 minutes)*

**Primary authors:** Prof. VAGINS, Mark (UC Irvine); SPOONER, Neil (University of Sheffield)

**Presenters:** Prof. VAGINS, Mark (UC Irvine); SPOONER, Neil (University of Sheffield)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 40

Type: **not specified**

## Speakers Board

*Sunday, January 13, 2019 10:40 AM (20 minutes)*

**Presenter:** DALNOKI-VERESS, Ferenc

**Session Classification:** Full Collaboration Meeting

Contribution ID: 41

Type: **not specified**

## Main Meeting Summary and Next Steps

*Sunday, January 13, 2019 11:00 AM (25 minutes)*

**Primary author:** Dr BERNSTEN, Adam (Lawrence Livermore National Laboratory )

**Presenter:** Dr BERNSTEN, Adam (Lawrence Livermore National Laboratory )

**Session Classification:** Full Collaboration Meeting

Contribution ID: 42

Type: **not specified**

## Discussion and Main Meeting Closeout

*Sunday, January 13, 2019 11:25 AM (1h 5m)*

Full Collaboration

**Session Classification:** Full Collaboration Meeting

Contribution ID: 43

Type: **not specified**

## **Institutional Board Meeting**

*Sunday, January 13, 2019 1:30 PM (1h 30m)*

Jon Burns lead

**Primary author:** BURNS, Jon

**Presenter:** BURNS, Jon

**Session Classification:** Full Collaboration Meeting

Contribution ID: 44

Type: **not specified**

## Subsystem Lead Meeting

*Sunday, January 13, 2019 3:15 PM (1 hour)*

Rob Hills lead

**Primary author:** HILLS, Rob

**Presenter:** HILLS, Rob

**Session Classification:** Full Collaboration Meeting

Contribution ID: 45

Type: **not specified**

## Results from 2018 Testing

*Thursday, January 10, 2019 8:00 AM (45 minutes)*

**Primary author:** SMITH, Gary (University of Edinburgh)

**Presenter:** SMITH, Gary (University of Edinburgh)

**Session Classification:** PMT WG



Contribution ID: 46

Type: **not specified**

## **Review of PMT LA vrs SA Sensitivity and Requirements**

*Thursday, January 10, 2019 8:45 AM (45 minutes)*

**Session Classification:** PMT WG

Contribution ID: 47

Type: **not specified**

## **PMT Cost and Schedule, LA vrs SA**

*Thursday, January 10, 2019 9:50 AM (30 minutes)*

**Session Classification:** PMT WG

Contribution ID: 48

Type: **not specified**

## **PMT Mechanical Testing Program**

*Thursday, January 10, 2019 10:20 AM (40 minutes)*

**Session Classification:** PMT WG

Contribution ID: 49

Type: **not specified**

## Acrylic Covers

*Thursday, January 10, 2019 12:00 PM (1 hour)*

Do we need them? What are the effects?

**Session Classification:** PMT WG

Contribution ID: 50

Type: **not specified**

## **Other costs: DAQ/HV/Mounting/Assembly**

*Thursday, January 10, 2019 1:00 PM (1 hour)*

**Session Classification:** PMT WG

Contribution ID: 51

Type: **not specified**

## **Walk through testing and installation steps (with updated info)**

*Thursday, January 10, 2019 2:20 PM (1h 40m)*

Need to produce preliminary plan for CDR

**Session Classification:** PMT WG

Contribution ID: 52

Type: **not specified**

## **System Status Reports**

**Session Classification:** DAQ WG

Contribution ID: 53

Type: **not specified**

## CAEN

*Thursday, January 10, 2019 8:00 AM (30 minutes)*

**Session Classification:** DAQ WG



Contribution ID: 54

Type: **not specified**

## **ANNIE/KOTO**

*Thursday, January 10, 2019 8:30 AM (30 minutes)*

**Session Classification:** DAQ WG

Contribution ID: 55

Type: **not specified**

## TARGET

*Thursday, January 10, 2019 9:00 AM (30 minutes)*

**Session Classification:** DAQ WG

Contribution ID: 56

Type: **not specified**

## **Purpose of CDR/PDR**

*Thursday, January 10, 2019 10:00 AM (15 minutes)*

**Session Classification:** DAQ WG

Contribution ID: 57

Type: **not specified**

## **CDR: known system risks, challenges**

*Thursday, January 10, 2019 10:15 AM (30 minutes)*

**Session Classification:** DAQ WG

Contribution ID: 58

Type: **not specified**

## **PDR: Common and specific performance milestones & schedule; re-evaluate requirements**

*Thursday, January 10, 2019 10:45 AM (1h 15m)*

**Session Classification:** DAQ WG

Contribution ID: 59

Type: **not specified**

## **PDR: Test procedures, performance criteria**

*Thursday, January 10, 2019 1:00 PM (30 minutes)*

**Session Classification:** DAQ WG

Contribution ID: **60**

Type: **not specified**

## **PDR: System bandwidths (define assumed compression factors)**

*Thursday, January 10, 2019 1:30 PM (15 minutes)*

**Session Classification:** DAQ WG

Contribution ID: **61**

Type: **not specified**

## **PDR: Cost estimation (define DAQ HW boundary)**

*Thursday, January 10, 2019 1:45 PM (15 minutes)*

**Session Classification:** DAQ WG



Contribution ID: **62**

Type: **not specified**

## **Interfaces of DAQ with other systems**

*Thursday, January 10, 2019 2:00 PM (30 minutes)*

**Session Classification:** DAQ WG

Contribution ID: **63**

Type: **not specified**

## **Interfaces (jointly with HV, REBAM, Site...)**

*Thursday, January 10, 2019 3:00 PM (1 hour)*

**Session Classification:** DAQ WG

Contribution ID: **64**

Type: **not specified**

## **Discussion**

*Friday, January 11, 2019 11:30 AM (30 minutes)*

**Session Classification:** Full Collaboration Meeting

Contribution ID: 65

Type: **not specified**

## **AmBe/DT source studies**

*Saturday, January 12, 2019 10:30 AM (15 minutes)*

**Primary author:** Dr ASKINS, Morgan (U. Berkeley)

**Presenter:** Dr ASKINS, Morgan (U. Berkeley)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 66

Type: **not specified**

## **Systematic Uncertainties in Background**

*Saturday, January 12, 2019 10:45 AM (15 minutes)*

**Primary author:** KNEALE, Liz

**Presenter:** KNEALE, Liz

**Session Classification:** Full Collaboration Meeting

Contribution ID: 67

Type: **not specified**

## **Muon veto study**

*Saturday, January 12, 2019 4:45 PM (15 minutes)*

**Primary author:** AKINDELE, Tomi (LLNL)

**Presenter:** AKINDELE, Tomi (LLNL)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 68

Type: **not specified**

## **SuperK benchmarking, WATCHMAN reconstruction and performance optimization**

*Saturday, January 12, 2019 5:00 PM (20 minutes)*

**Primary author:** Dr SMY, Michael

**Presenter:** Dr SMY, Michael

**Session Classification:** Full Collaboration Meeting

Contribution ID: **69**

Type: **not specified**

## **PMT tilt study**

*Saturday, January 12, 2019 5:20 PM (15 minutes)*

**Primary author:** Mr PERSHING, Teal (UC Davis)

**Presenter:** Mr PERSHING, Teal (UC Davis)

**Session Classification:** Full Collaboration Meeting



Contribution ID: 70

Type: **not specified**

## **US-UK Project Coordination**

Integrated Project Team

**Session Classification:** Full Collaboration Meeting

Contribution ID: 71

Type: **not specified**

## Light Injection System

*Saturday, January 12, 2019 10:10 AM (10 minutes)*

remote

**Primary author:** METELKO, Carl

**Presenter:** METELKO, Carl

**Session Classification:** Full Collaboration Meeting

Contribution ID: 72

Type: **not specified**

## **2-ton detector at Sheffield for calibration**

*Saturday, January 12, 2019 10:20 AM (10 minutes)*

**Primary author:** Dr MALEK, Matthew (University of Sheffield)

**Presenter:** Dr MALEK, Matthew (University of Sheffield)

**Session Classification:** Full Collaboration Meeting

Contribution ID: 73

Type: **not specified**

## Collaboration Photograph

*Saturday, January 12, 2019 11:30 AM (15 minutes)*

**Session Classification:** Full Collaboration Meeting