

# **23rd Geant4 Collaboration Meeting**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## **Welcome by Mr. Holger Radner, vice Mayor of Lund**

*Monday, 27 August 2018 09:00 (10 minutes)*

**Presenter:** Mr RADNER, Holger (Vice Mayor, Lund)

**Session Classification:** Plenary 1 - Opening address / open requirements

Contribution ID: 2

Type: **not specified**

## Opening remarks

*Monday, 27 August 2018 09:10 (5 minutes)*

**Presenters:** ASAI, Makoto (SLAC National Accelerator Laboratory (US)); VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary 1 - Opening address / open requirements

Contribution ID: 3

Type: **not specified**

## **Open requirements - LHC and other HEP energy frontier experiments**

*Monday, 27 August 2018 09:15 (15 minutes)*

**Presenter:** NOVAK, Mihaly (CERN)

**Session Classification:** Plenary 1 - Opening address / open requirements

Contribution ID: 4

Type: **not specified**

## **Open requirements - HEP intensity and cosmic frontier experiments**

*Monday, 27 August 2018 09:30 (15 minutes)*

**Presenter:** GENSER, Krzysztof (Fermi National Accelerator Laboratory (US))

**Session Classification:** Plenary 1 - Opening address / open requirements

Contribution ID: 5

Type: **not specified**

## **Open requirements - Nuclear physics and engineering, material science**

*Monday, 27 August 2018 09:45 (15 minutes)*

**Presenter:** WRIGHT, Dennis Herbert

**Session Classification:** Plenary 1 - Opening address / open requirements

Contribution ID: 6

Type: **not specified**

## **Open requirements - Space science and engineering**

*Monday, 27 August 2018 10:00 (15 minutes)*

**Presenter:** SANTIN, Giovanni (ESA)

**Session Classification:** Plenary 1 - Opening address / open requirements

Contribution ID: 7

Type: **not specified**

## **Open requirements - Medical and bio science**

*Monday, 27 August 2018 10:15 (15 minutes)*

**Presenter:** ARCE, Pedro (CIEMAT)

**Session Classification:** Plenary 1 - Opening address / open requirements



Contribution ID: 8

Type: **not specified**

## Report on Parallel Session 1A and 2A

*Friday, 31 August 2018 11:00 (15 minutes)*

Report from EM physics parallel sessions

**Presenters:** IVANTCHENKO, Vladimir (CERN); INCERTI, Sebastien (CNRS/IN2P3); NOVAK, Mihaly (CERN); PANDOLA, Luciano (INFN-LNS)

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 9

Type: **not specified**

## Report on Parallel Session 1B

*Friday, 31 August 2018 11:15 (8 minutes)*

**Presenters:** JUN, Soon Yung (Fermi National Accelerator Lab. (US)); FOLGER, Gunter (CERN)

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: **10**

Type: **not specified**

## **Report on Parallel Session 2B**

*Friday, 31 August 2018 11:23 (8 minutes)*

**Presenters:** HOWARD, Alexander (Imperial College (GB)); GARNIER, Laurent

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 11

Type: **not specified**

## Report on Parallel Session 3B

*Friday, 31 August 2018 11:31 (8 minutes)*

**Presenters:** ASAI, Makoto (SLAC National Accelerator Laboratory (US)); COSMO, Gabriele (CERN)

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 12

Type: **not specified**

## Report on Parallel Session 4B

*Friday, 31 August 2018 11:39 (8 minutes)*

**Presenters:** COSMO, Gabriele (CERN); APOSTOLAKIS, John (CERN)

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 13

Type: **not specified**

## Report on Parallel Session 5B

*Friday, 31 August 2018 11:47 (8 minutes)*

**Presenters:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR)); HOWARD, Alexander (Imperial College (GB))

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 14

Type: **not specified**

## Report on Parallel Session 6A

*Friday, 31 August 2018 11:55 (8 minutes)*

**Presenters:** FOLGER, Gunter (CERN); WENZEL, Hans-Joachim (Fermi National Accelerator Lab. (US))

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 15

Type: **not specified**

## Report on Parallel Session 6B

*Friday, 31 August 2018 12:03 (8 minutes)*

**Presenters:** HRIVNACOVA, Ivana (Centre National de la Recherche Scientifique (FR)); GUATELLI, Susanna

**Session Classification:** Plenary 8 - Summary of parallel sessions



Contribution ID: 16

Type: **not specified**

## Report on Parallel Session 7B

*Friday, 31 August 2018 12:11 (8 minutes)*

**Presenters:** MORGAN, Benjamin (University of Warwick (GB)); FOLGER, Gunter (CERN)

**Session Classification:** Plenary 8 - Summary of parallel sessions

Contribution ID: 17

Type: **not specified**

## Report on Parallel Session 3A, 4A, 5A and 8A

*Friday, 31 August 2018 14:00 (20 minutes)*

Reports on hadronic physics parallel sessions

**Presenters:** WRIGHT, Dennis Herbert; YARBA, Julia; GENSER, Krzysztof (Fermi National Accelerator Laboratory (US)); FOLGER, Gunter (CERN)

**Session Classification:** Plenary 9 - Summary of parallel sessions / closing session

Contribution ID: **18**

Type: **not specified**

## **Report on Parallel Session 7A**

*Friday, 31 August 2018 14:20 (15 minutes)*

**Presenters:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR)); POKORSKI, Witold (CERN)

**Session Classification:** Plenary 9 - Summary of parallel sessions / closing session

Contribution ID: 19

Type: **not specified**

## **Report on Parallel Session 8B**

*Friday, 31 August 2018 14:35 (8 minutes)*

**Presenters:** ALLISON, John; GARNIER, Laurent

**Session Classification:** Plenary 9 - Summary of parallel sessions / closing session

Contribution ID: **20**

Type: **not specified**

## **Release schedule**

*Friday, 31 August 2018 14:43 (15 minutes)*

**Presenter:** COSMO, Gabriele (CERN)

**Session Classification:** Plenary 9 - Summary of parallel sessions / closing session

Contribution ID: 21

Type: **not specified**

## Next collaboration meeting

*Friday, 31 August 2018 14:58 (5 minutes)*

**Presenter:** GUEYE, Paul (Hampton University)

**Session Classification:** Plenary 9 - Summary of parallel sessions / closing session

Contribution ID: 22

Type: **not specified**

## Closing remarks

*Friday, 31 August 2018 15:03 (15 minutes)*

**Presenters:** ASAI, Makoto (SLAC National Accelerator Laboratory (US)); VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary 9 - Summary of parallel sessions / closing session

Contribution ID: 23

Type: **not specified**

## **New 5D gamma conversion model**

*Monday, 27 August 2018 14:00 (20 minutes)*

**Presenters:** BERNARD, Denis Robert Leon (Centre National de la Recherche Scientifique (FR)); SEMENIOUK, Igor (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 1A - New EM physics models



Contribution ID: 24

Type: **not specified**

## **New model of 3 gamma annihilation**

*Monday, 27 August 2018 14:20 (20 minutes)*

**Presenter:** ALKIN, Andrei (M.V. Lomonosov Moscow State University (RU))

**Session Classification:** Parallel 1A - New EM physics models

Contribution ID: 25

Type: **not specified**

## **Models for simulation of Gold nanoparticles**

*Monday, 27 August 2018 14:40 (20 minutes)*

**Presenter:** SAKATA, Dosatsu (University of Tsukuba (JP))

**Session Classification:** Parallel 1A - New EM physics models

Contribution ID: 26

Type: **not specified**

## **New PIXE cross sections and validation of Auger electrons**

*Monday, 27 August 2018 15:00 (20 minutes)*

**Presenter:** GUATELLI, Susanna

**Session Classification:** Parallel 1A - New EM physics models

Contribution ID: 27

Type: **not specified**

## Update of Standard EM Models

*Tuesday, 28 August 2018 09:00 (30 minutes)*

**Presenter:** NOVAK, Mihaly (CERN)

**Session Classification:** Plenary 3 - Electromagnetic Physics Updates

Contribution ID: 28

Type: **not specified**

## Status of Standard EM libraries

*Tuesday, 28 August 2018 09:30 (30 minutes)*

**Presenter:** IVANTCHENKO, Vladimir (CERN)

**Session Classification:** Plenary 3 - Electromagnetic Physics Updates

Contribution ID: 29

Type: **not specified**

## Status of Low-energy EM Physics

*Tuesday, 28 August 2018 10:00 (30 minutes)*

**Presenter:** INCERTI, Sebastien (CNRS/IN2P3)

**Session Classification:** Plenary 3 - Electromagnetic Physics Updates

Contribution ID: **30**

Type: **not specified**

## **CPA100 models for Geant4-DNA**

*Monday, 27 August 2018 16:40 (20 minutes)*

**Presenter:** BORDAGE, M. C.

**Session Classification:** Parallel 2A - New EM validation results

Contribution ID: 31

Type: **not specified**

## **Geant4 low-energy models for electron transport in liquid water**

*Monday, 27 August 2018 16:00 (20 minutes)*

**Presenter:** KYRIAKOU, I.

**Session Classification:** Parallel 2A - New EM validation results



Contribution ID: 32

Type: **not specified**

## **New low energy elastic model for gammas**

*Monday, 27 August 2018 16:20 (20 minutes)*

**Presenter:** OMER, M.

**Session Classification:** Parallel 2A - New EM validation results

Contribution ID: 33

Type: **not specified**

## **Validation of the Geant4 EM physics for modelling high energy synchrotron beamlines**

*Monday, 27 August 2018 17:00 (20 minutes)*

**Presenter:** GUATELLI, S.

**Session Classification:** Parallel 2A - New EM validation results

Contribution ID: 34

Type: **not specified**

## **Validation of Geant4 fragmentation models between 4He and 20Ne**

**Presenter:** BOLST, D.

**Session Classification:** Parallel 2A - New EM validation results

Contribution ID: 35

Type: **not specified**

## **High Energy Hadronic Models: Status and Plans - Gunter Folger**

*Tuesday, 28 August 2018 11:00 (20 minutes)*

**Session Classification:** Plenary 4 - Physics updates 2

Contribution ID: 36

Type: **not specified**

## **Low Energy Hadronic Models: Status and Plans - Laurent Desorgher**

*Tuesday, 28 August 2018 11:20 (20 minutes)*

**Session Classification:** Plenary 4 - Physics updates 2

Contribution ID: 37

Type: **not specified**

## **Hadronic Validation: Status and Plans - Dennis Wright**

*Tuesday, 28 August 2018 11:40 (20 minutes)*

**Session Classification:** Plenary 4 - Physics updates 2

Contribution ID: **38**

Type: **not specified**

## **Hadronic Model Discussion**

*Tuesday, 28 August 2018 12:00 (30 minutes)*

**Session Classification:** Plenary 4 - Physics updates 2

Contribution ID: 39

Type: **not specified**

## Very High Energy Models - Khaled Abdellatif

*Tuesday, 28 August 2018 14:00 (15 minutes)*

**Session Classification:** Parallel 3A - Status of development and validation of hadronic physics models, part I



Contribution ID: 40

Type: **not specified**

## **FTF and QGS Models: Status and Plans - Gunter Folger**

*Tuesday, 28 August 2018 14:15 (15 minutes)*

**Session Classification:** Parallel 3A - Status of development and validation of hadronic physics models, part I

Contribution ID: 41

Type: **not specified**

## **INCL++ Status and Plans - Jean-Christophe David**

*Tuesday, 28 August 2018 14:30 (15 minutes)*

**Session Classification:** Parallel 3A - Status of development and validation of hadronic physics models, part I

Contribution ID: 42

Type: **not specified**

## **Bertini Cascade Staus and Plans - Dennis Wright**

*Tuesday, 28 August 2018 14:45 (15 minutes)*

**Session Classification:** Parallel 3A - Status of development and validation of hadronic physics models, part I

Contribution ID: 43

Type: **not specified**

## Discussion

*Tuesday, 28 August 2018 15:00 (30 minutes)*

**Session Classification:** Parallel 3A - Status of development and validation of hadronic physics models, part I

Contribution ID: 44

Type: **not specified**

## **Results from CMS Test Beam and Run 2 - S. Banerjee, V. Ivantchenko**

*Tuesday, 28 August 2018 16:00 (15 minutes)*

**Presenters:** BANERJEE, Sunanda (Fermi National Accelerator Lab. (US)); IVANTCHENKO, Vladimir (CERN)

**Session Classification:** Parallel 4A - Status of development and validation of hadronic physics models, part II

Contribution ID: 45

Type: **not specified**

## **INCL++ Parameter Study - Jean-Christophe David**

*Tuesday, 28 August 2018 16:15 (15 minutes)*

**Presenter:** DAVID, Jean-Christophe

**Session Classification:** Parallel 4A - Status of development and validation of hadronic physics models, part II

Contribution ID: 46

Type: **not specified**

## **FTF Configuration Interface - Julia Yarba**

*Tuesday, 28 August 2018 16:30 (15 minutes)*

**Presenters:** YARBA, Julia (Fermi National Accelerator Lab. (US)); YARBA, Julia

**Session Classification:** Parallel 4A - Status of development and validation of hadronic physics models, part II

Contribution ID: 47

Type: **not specified**

## **FTF + Bertini Parameter Study - Robert Hatcher**

*Tuesday, 28 August 2018 16:45 (30 minutes)*

**Presenter:** HATCHER, Robert William (Fermilab)

**Session Classification:** Parallel 4A - Status of development and validation of hadronic physics models, part II



Contribution ID: 48

Type: **not specified**

## Discussion

*Tuesday, 28 August 2018 17:15 (15 minutes)*

**Session Classification:** Parallel 4A - Status of development and validation of hadronic physics models, part II

Contribution ID: 49

Type: **not specified**

## **Hadron Therapy Validation - Susanna Guatelli**

*Wednesday, 29 August 2018 09:00 (15 minutes)*

**Session Classification:** Parallel 5A - Low energy hadronic physics

Contribution ID: 50

Type: **not specified**

## **High Precision Hadron Models: Status and Plans - Pedro Arce**

*Wednesday, 29 August 2018 09:15 (15 minutes)*

**Session Classification:** Parallel 5A - Low energy hadronic physics

Contribution ID: 51

Type: **not specified**

## **Radioactive Decay Model: Status and Plans - Laurent Desorgher**

*Wednesday, 29 August 2018 09:30 (15 minutes)*

**Session Classification:** Parallel 5A - Low energy hadronic physics

Contribution ID: 52

Type: **not specified**

## **Precompound and Deexcitation Models - Vladimir Ivantchenko**

*Wednesday, 29 August 2018 09:45 (15 minutes)*

**Session Classification:** Parallel 5A - Low energy hadronic physics

Contribution ID: 53

Type: **not specified**

## Discussion

*Wednesday, 29 August 2018 10:00 (30 minutes)*

**Session Classification:** Parallel 5A - Low energy hadronic physics

Contribution ID: 54

Type: **not specified**

## **ProtonHP: Status and Problems - Pablo Cirrone**

*Friday, 31 August 2018 09:00 (10 minutes)*

**Session Classification:** Parallel 8A - Technical aspects of hadronic physics and remaining topics

Contribution ID: 55

Type: **not specified**

## **Discussion of ParticleHP Maintenance - Michel Maire**

*Friday, 31 August 2018 09:10 (20 minutes)*

**Session Classification:** Parallel 8A - Technical aspects of hadronic physics and remaining topics



Contribution ID: 56

Type: **not specified**

## **(Extension of 7A) - Vectorisation of RND engines**

*Friday, 31 August 2018 09:30 (15 minutes)*

**Primary authors:** APOSTOLAKIS, John (CERN); JUN, Soon Yung (Fermi National Accelerator Lab. (US))

**Presenters:** APOSTOLAKIS, John (CERN); JUN, Soon Yung (Fermi National Accelerator Lab. (US))

**Session Classification:** Parallel 8A - Technical aspects of hadronic physics and remaining topics

Contribution ID: 57

Type: **not specified**

## Discussion - Witold Pokorski

**Session Classification:** Parallel 8A - Technical aspects of hadronic physics and remaining topics

Contribution ID: 58

Type: **not specified**

## **(Extension of 7A) - Discussion**

*Friday, 31 August 2018 09:55 (35 minutes)*

**Session Classification:** Parallel 8A - Technical aspects of hadronic physics and remaining topics

Contribution ID: 59

Type: **not specified**

## Updates on solids modelling in VecGeom

*Tuesday, 28 August 2018 16:00 (20 minutes)*

**Presenter:** COSMO, Gabriele (CERN)

**Session Classification:** Parallel 4B - Geometry working session

Contribution ID: **60**

Type: **not specified**

## **Latest developments in navigation with VecGeom**

*Tuesday, 28 August 2018 16:20 (20 minutes)*

**Presenter:** WENZEL, Sandro Christian (CERN)

**Session Classification:** Parallel 4B - Geometry working session

Contribution ID: **61**

Type: **not specified**

## **Investigations in the ATLAS geometry**

*Tuesday, 28 August 2018 16:40 (20 minutes)*

**Presenter:** TCHERNIAEV, Evgueni (Russian Academy of Sciences (RU))

**Session Classification:** Parallel 4B - Geometry working session

Contribution ID: **62**

Type: **not specified**

## **Updated field thresholds for looping particles**

*Tuesday, 28 August 2018 17:00 (20 minutes)*

**Presenter:** APOSTOLAKIS, John (CERN)

**Session Classification:** Parallel 4B - Geometry working session

Contribution ID: **63**

Type: **not specified**

## **Review of open issues and discussion**

*Tuesday, 28 August 2018 17:20 (10 minutes)*

**Session Classification:** Parallel 4B - Geometry working session



Contribution ID: **64**

Type: **not specified**

## Introduction

*Wednesday, 29 August 2018 09:00 (10 minutes)*

**Primary authors:** HOWARD, Alexander (Imperial College (GB)); VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Presenters:** HOWARD, Alexander (Imperial College (GB)); VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 5B - Biasing

Contribution ID: 65

Type: **not specified**

## Variance reduction using multi-stage simulations

*Wednesday, 29 August 2018 09:10 (20 minutes)*

**Primary author:** TRUSCOTT, Pete

**Presenter:** TRUSCOTT, Pete

**Session Classification:** Parallel 5B - Biasing

Contribution ID: 66

Type: **not specified**

## Update on Channeling

*Wednesday, 29 August 2018 09:30 (15 minutes)*

**Primary author:** BAGLI, Enrico (Universita e INFN, Ferrara (IT))

**Presenter:** BAGLI, Enrico (Universita e INFN, Ferrara (IT))

**Session Classification:** Parallel 5B - Biasing

Contribution ID: 67

Type: **not specified**

## Update on Generic Biasing

*Wednesday, 29 August 2018 09:45 (15 minutes)*

**Primary author:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Presenter:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 5B - Biasing

Contribution ID: **68**

Type: **not specified**

## **Discussion on open issues**

*Wednesday, 29 August 2018 10:10 (20 minutes)*

**Session Classification:** Parallel 5B - Biasing

Contribution ID: 69

Type: **not specified**

## Having a Differential Cross-Section Class

*Wednesday, 29 August 2018 10:00 (10 minutes)*

**Primary author:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Presenter:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 5B - Biasing

Contribution ID: 70

Type: **not specified**

## Migration to C++11/14/17

*Thursday, 30 August 2018 11:00 (30 minutes)*

**Presenter:** MORGAN, Benjamin (University of Warwick (GB))

**Session Classification:** Plenary 7 - Code evolution strategies

Contribution ID: 71

Type: **not specified**

## Integrating R&D outcomes

*Thursday, 30 August 2018 11:30 (30 minutes)*

**Presenter:** ASAI, Makoto (SLAC National Accelerator Laboratory (US))

**Session Classification:** Plenary 7 - Code evolution strategies



Contribution ID: 72

Type: **not specified**

## Git openness

*Thursday, 30 August 2018 12:00 (30 minutes)*

**Presenters:** COSMO, Gabriele (CERN); MATO VILA, Pere (CERN)

**Session Classification:** Plenary 7 - Code evolution strategies

Contribution ID: 73

Type: **not specified**

## **Profiling for low energy physics**

*Monday, 27 August 2018 14:00 (15 minutes)*

**Presenter:** CHO, Kihyeon

**Session Classification:** Parallel 1B - Computing performance

Contribution ID: 74

Type: **not specified**

## Medcial Domain

*Monday, 27 August 2018 14:15 (15 minutes)*

**Presenter:** GUATELLI, Susanna

**Session Classification:** Parallel 1B - Computing performance

Contribution ID: 75

Type: **not specified**

## ALICE

*Monday, 27 August 2018 14:30 (15 minutes)*

**Presenter:** HRIVNACOVA, Ivana (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 1B - Computing performance

Contribution ID: 76

Type: **not specified**

## ATLAS

*Monday, 27 August 2018 14:45 (15 minutes)*

**Presenter:** APOSTOLAKIS, John (CERN)

**Session Classification:** Parallel 1B - Computing performance

Contribution ID: 77

Type: **not specified**

## CMS

*Monday, 27 August 2018 15:00 (15 minutes)*

**Presenter:** ELVIRA, Victor Daniel (Fermi National Accelerator Lab. (US))

**Session Classification:** Parallel 1B - Computing performance

Contribution ID: 78

Type: **not specified**

## Intensity Frontier

*Monday, 27 August 2018 15:15 (15 minutes)*

**Presenters:** GENSER, Krzysztof (Fermi National Accelerator Laboratory (US)); JUN, Soon Yung (Fermi National Accelerator Lab. (US))

**Session Classification:** Parallel 1B - Computing performance

Contribution ID: 79

Type: **not specified**

## **Sub-event parallelism**

*Tuesday, 28 August 2018 14:00 (12 minutes)*

**Presenter:** ASAI, Makoto (SLAC National Accelerator Laboratory (US))

**Session Classification:** Parallel 3B - Near-term kernel developments



Contribution ID: 80

Type: **not specified**

## **Unified tracking mechanism for exotic particles (ions, muonic atoms, radicals, hyper-nuclear, phonon, e/h)**

*Tuesday, 28 August 2018 14:12 (12 minutes)*

**Presenters:** ASAI, Makoto (SLAC National Accelerator Laboratory (US)); KURASHIGE, Hisaya (Kobe University (JP))

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: **81**

Type: **not specified**

## **Revisit / retreat production thresholds and physics process framework**

*Tuesday, 28 August 2018 14:24 (12 minutes)*

**Presenter:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: **82**

Type: **not specified**

## **Refactoring transportation**

*Tuesday, 28 August 2018 14:36 (12 minutes)*

**Presenters:** ASAI, Makoto (SLAC National Accelerator Laboratory (US)); COSMO, Gabriele (CERN)

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: **83**

Type: **not specified**

## Use of HPC

*Tuesday, 28 August 2018 14:48 (12 minutes)*

**Presenter:** MADSEN, Jonathan (Lawrence Berkeley National Laboratory)

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: **84**

Type: **not specified**

## **Extending crystal structure capabilities**

*Tuesday, 28 August 2018 15:00 (12 minutes)*

**Presenter:** BAGLI, Enrico (Universita e INFN, Ferrara (IT))

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: **85**

Type: **not specified**

## **Open discussion**

*Tuesday, 28 August 2018 15:24 (6 minutes)*

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: **86**

Type: **not specified**

## **Current status of the Geant4 Advanced Examples**

*Thursday, 30 August 2018 14:00 (15 minutes)*

**Presenter:** GUATELLI, Susanna

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: 87

Type: **not specified**

## **Hadrontherapy: status, recent updates, and new developments**

*Thursday, 30 August 2018 14:15 (15 minutes)*

**Presenter:** PETRINGA, G.

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples



Contribution ID: **88**

Type: **not specified**

## **VIS, UI clean-up**

*Thursday, 30 August 2018 14:45 (10 minutes)*

**Presenter:** ALLISON, John

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: **89**

Type: **not specified**

## **New extended/physicslists category**

*Thursday, 30 August 2018 15:00 (5 minutes)*

**Presenter:** HRIVNACOVA, Ivana (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: **90**

Type: **not specified**

## **New extensibleFactory example**

*Thursday, 30 August 2018 15:05 (5 minutes)*

**Presenter:** HATCHER, Robert William (Fermilab)

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: **91**

Type: **not specified**

## **New OpNovice2 example**

*Thursday, 30 August 2018 14:55 (5 minutes)*

**Presenter:** SAWKEY, Daren

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: 92

Type: **not specified**

## **DICOM2 + Proposal for new demonstration of using statistic tools**

*Thursday, 30 August 2018 15:10 (15 minutes)*

**Presenter:** MADSEN, Jonathan (Lawerence Berkeley National Laboratory)

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: 93

Type: **not specified**

## **B&E Examples WG: Work plan items**

*Thursday, 30 August 2018 14:30 (15 minutes)*

**Presenter:** HRIVNACOVA, Ivana (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 6B - Basic, Extended and Advanced Examples

Contribution ID: 94

Type: **not specified**

## Geant4 val

*Thursday, 30 August 2018 14:20 (20 minutes)*

**Presenter:** KONSTANTINOV, Dmitri (Institute for High Energy Physics of NRC Kurchatov Institute (R))

**Session Classification:** Parallel 6A - Open topics in physics lists and validation tools

Contribution ID: 95

Type: **not specified**

## DoSSiER

*Thursday, 30 August 2018 14:40 (20 minutes)*

**Presenter:** WENZEL, Hans-Joachim (Fermi National Accelerator Lab. (US))

**Session Classification:** Parallel 6A - Open topics in physics lists and validation tools



Contribution ID: 96

Type: **not specified**

## Physics List Factory - an Update

*Thursday, 30 August 2018 14:00 (20 minutes)*

**Presenter:** HATCHER, Robert William (Fermilab)

**Session Classification:** Parallel 6A - Open topics in physics lists and validation tools

Contribution ID: 97

Type: **not specified**

## **Biasing in Geant4 - an Update**

*Wednesday, 29 August 2018 11:00 (20 minutes)*

**Presenter:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary 5 - Generic process, physics validation and validation tools

Contribution ID: **98**

Type: **not specified**

## **Validation Strategies and Tools**

*Wednesday, 29 August 2018 11:20 (20 minutes)*

**Presenter:** FOLGER, Gunter (CERN)

**Session Classification:** Plenary 5 - Generic process, physics validation and validation tools

Contribution ID: 99

Type: **not specified**

## Discussion

*Wednesday, 29 August 2018 11:40 (20 minutes)*

**Session Classification:** Plenary 5 - Generic process, physics validation and validation tools

Contribution ID: **100**

Type: **not specified**

## Documentation update

*Monday, 27 August 2018 16:00 (20 minutes)*

update on the current status of the Geant4 documentation and request for inputs for future features.

**Presenter:** HOWARD, Alexander (Imperial College (GB))

**Session Classification:** Parallel 2B - Documentation working session

Contribution ID: **101**

Type: **not specified**

## Documentation Discussion 1

*Monday, 27 August 2018 16:20 (10 minutes)*

- release schedule and location of development documents (for public access?)
- What about beta releases?

**Presenter:** HOWARD, Alexander (Imperial College (GB))

**Session Classification:** Parallel 2B - Documentation working session

Contribution ID: **102**

Type: **not specified**

## Documentation Discussion 2

*Monday, 27 August 2018 16:30 (15 minutes)*

- Alternative formats? Should we consider epub, mobi, whatever or just pdf and html?

**Presenter:** HOWARD, Alexander (Imperial College (GB))

**Session Classification:** Parallel 2B - Documentation working session

Contribution ID: **103**

Type: **not specified**

## Videos

*Monday, 27 August 2018 16:45 (45 minutes)*

Videos for Geant4

- tutorials
- demonstrations
- publicity/outreach

Content - what should we make videos of?

Maintenance/keeping up-to-date

**Presenter:** GARNIER, Laurent

**Session Classification:** Parallel 2B - Documentation working session



Contribution ID: **104**

Type: **not specified**

## **Updates on Geant4 Documentation**

*Monday, 27 August 2018 11:00 (15 minutes)*

**Presenter:** HOWARD, Alexander (Imperial College (GB))

**Session Classification:** Plenary 2 - Collaboration tools, documentation, web

Contribution ID: **105**

Type: **not specified**

## **Updates on Geant4 Website/Drupal**

*Monday, 27 August 2018 11:15 (15 minutes)*

**Presenter:** FOLGER, Gunter (CERN)

**Session Classification:** Plenary 2 - Collaboration tools, documentation, web

Contribution ID: **106**

Type: **not specified**

## **Updates on Geant4 Development Tools: CMake, Data**

*Monday, 27 August 2018 11:30 (15 minutes)*

**Presenter:** MORGAN, Benjamin (University of Warwick (GB))

**Session Classification:** Plenary 2 - Collaboration tools, documentation, web

Contribution ID: **107**

Type: **not specified**

## **Geant4 Git Migration: Timetable and Discussion**

*Monday, 27 August 2018 11:45 (45 minutes)*

**Presenters:** MORGAN, Benjamin (University of Warwick (GB)); COSMO, Gabriele (CERN); FOLGER, Gunter (CERN)

**Session Classification:** Plenary 2 - Collaboration tools, documentation, web

Contribution ID: **108**

Type: **not specified**

## **(Extension of 7A) - Machine Learning in simulation & discussion**

*Thursday, 30 August 2018 15:05 (25 minutes)*

Presentation of what could bring Machine Learning to simulation, and discussion on it.

**Primary author:** BANDIERAMONTE, Marilena (CERN)

**Presenter:** BANDIERAMONTE, Marilena (CERN)

**Session Classification:** Parallel 6A - Open topics in physics lists and validation tools

Contribution ID: **109**

Type: **not specified**

## **(Extension of 7A) - Introduction**

*Thursday, 30 August 2018 15:00 (5 minutes)*

**Primary authors:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR)); POKORSKI, Witold (CERN)

**Presenters:** VERDERI, Marc (Centre National de la Recherche Scientifique (FR)); POKORSKI, Witold (CERN)

**Session Classification:** Parallel 6A - Open topics in physics lists and validation tools

Contribution ID: **110**

Type: **not specified**

## **Geant4 tasking model**

*Thursday, 30 August 2018 16:00 (20 minutes)*

**Presenter:** MADSEN, Jonathan (Lawrence Berkeley National Laboratory)

**Session Classification:** Parallel 7A - Medium- and longer-term R&Ds

Contribution ID: **111**

Type: **not specified**

## **Geant4 + GPUs**

*Thursday, 30 August 2018 16:20 (10 minutes)*

**Primary author:** MADSEN, Jonathan (Lawrence Berkeley National Laboratory)

**Presenter:** MADSEN, Jonathan (Lawrence Berkeley National Laboratory)

**Session Classification:** Parallel 7A - Medium- and longer-term R&Ds



Contribution ID: **112**

Type: **not specified**

## **GeantV status and performance**

*Thursday, 30 August 2018 16:30 (15 minutes)*

**Presenter:** GHEATA, Andrei (CERN)

**Session Classification:** Parallel 7A - Medium- and longer-term R&Ds

Contribution ID: **113**

Type: **not specified**

## Applying vectorisation to Geant4

*Thursday, 30 August 2018 16:45 (15 minutes)*

**Primary author:** GHEATA, Andrei (CERN)

**Presenter:** GHEATA, Andrei (CERN)

**Session Classification:** Parallel 7A - Medium- and longer-term R&Ds

Contribution ID: **114**

Type: **not specified**

## **Vectorisation of EM physics**

*Thursday, 30 August 2018 17:00 (15 minutes)*

**Primary author:** BANDIERAMONTE, Marilena (CERN)

**Presenter:** BANDIERAMONTE, Marilena (CERN)

**Session Classification:** Parallel 7A - Medium- and longer-term R&Ds

Contribution ID: 115

Type: **not specified**

## Vectorisation of Bertini cascade

*Thursday, 30 August 2018 17:15 (15 minutes)*

**Primary author:** LIMA, Guilherme (FermiLab (US))

**Presenter:** LIMA, Guilherme (FermiLab (US))

**Session Classification:** Parallel 7A - Medium- and longer-term R&Ds

Contribution ID: **116**

Type: **not specified**

## **Status of multithreading / Kernel updates**

*Thursday, 30 August 2018 09:00 (20 minutes)*

**Presenter:** Dr MADSEN, Jonathan (Lawrence Berkeley National Laboratory)

**Session Classification:** Plenary 6 - Kernel, GUI/Vis, examples updates

Contribution ID: **117**

Type: **not specified**

## **GUI / Vis updates / Intercom updates**

*Thursday, 30 August 2018 09:20 (20 minutes)*

**Presenters:** ALLISON, John; ASAI, Makoto (SLAC National Accelerator Laboratory (US))

**Session Classification:** Plenary 6 - Kernel, GUI/Vis, examples updates

Contribution ID: **118**

Type: **not specified**

## Examples updates

*Thursday, 30 August 2018 09:40 (15 minutes)*

**Presenter:** HRIVNACOVA, Ivana (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary 6 - Kernel, GUI/Vis, examples updates

Contribution ID: **119**

Type: **not specified**

## Analysis updates

*Thursday, 30 August 2018 09:55 (20 minutes)*

**Presenter:** BARRAND, Guy (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Plenary 6 - Kernel, GUI/Vis, examples updates



Contribution ID: **120**

Type: **not specified**

## **Geometry updates**

*Thursday, 30 August 2018 10:15 (15 minutes)*

**Presenter:** COSMO, Gabriele (CERN)

**Session Classification:** Plenary 6 - Kernel, GUI/Vis, examples updates

Contribution ID: **121**

Type: **not specified**

## **TiMemory performance monitoring**

*Tuesday, 28 August 2018 15:12 (12 minutes)*

**Presenter:** MADSEN, Jonathan (Lawrence Berkeley National Laboratory)

**Session Classification:** Parallel 3B - Near-term kernel developments

Contribution ID: 122

Type: **not specified**

## **(Extension of 7A) - Optical Photon Mediator for Vectorization, GPU and FastSim**

*Friday, 31 August 2018 09:45 (10 minutes)*

**Primary author:** JUN, Soon Yung (Fermi National Accelerator Lab. (US))

**Presenter:** JUN, Soon Yung (Fermi National Accelerator Lab. (US))

**Session Classification:** Parallel 8A - Technical aspects of hadronic physics and remaining topics

Contribution ID: **123**

Type: **not specified**

## **Global update on vis**

*Friday, 31 August 2018 09:00 (10 minutes)*

**Presenter:** ALLISON, John

**Session Classification:** Parallel 8B - Updates on Vis

Contribution ID: **124**

Type: **not specified**

## Qt driver status

*Friday, 31 August 2018 09:30 (10 minutes)*

**Presenter:** GARNIER, Laurent

**Session Classification:** Parallel 8B - Updates on Vis

Contribution ID: **125**

Type: **not specified**

## **Inventor driver status**

*Friday, 31 August 2018 09:10 (10 minutes)*

**Presenter:** JONES, Fred (TRIUMF (CA))

**Session Classification:** Parallel 8B - Updates on Vis

Contribution ID: 126

Type: **not specified**

## Exploring G4 on Android and iOS.

*Friday, 31 August 2018 09:20 (10 minutes)*

**Presenter:** BARRAND, Guy (Centre National de la Recherche Scientifique (FR))

**Session Classification:** Parallel 8B - Updates on Vis

Contribution ID: **127**

Type: **not specified**

## Open discussion

*Friday, 31 August 2018 09:50 (40 minutes)*

- Open inventor
- Migration from OpenGL to Metal
- ...

**Session Classification:** Parallel 8B - Updates on Vis



Contribution ID: **128**

Type: **not specified**

## **Other driver status**

*Friday, 31 August 2018 09:40 (10 minutes)*

**Session Classification:** Parallel 8B - Updates on Vis