

JUNO GEANT4 School

Report of Contributions

Contribution ID: 2

Type: **not specified**

Introduction and welcome

Monday, 15 May 2017 09:00 (40 minutes)

Course layout, course material, logistics. Welcome from local organizers

Session Classification: Introduction

Contribution ID: 3

Type: **not specified**

Introduction to Geant4 - part 2

Monday, 15 May 2017 11:00 (40 minutes)

The structure of an application (main, src, include). Conceptual recipe, mandatory classes. The main.cc. Batch-vs-interactive. Examples/documentation. Event loop

Presenter: JAN, Pipek (I)

Session Classification: Geant4: overview and installation

Contribution ID: 4

Type: **not specified**

Geant4 installation

Monday, 15 May 2017 11:40 (20 minutes)

Build procedures, cmake, databases, MT-vs-sequential

Presenter: JAN, Pipek (I)

Session Classification: Geant4: overview and installation

Contribution ID: 5

Type: **not specified**

Building of an application and basic UI

Monday, 15 May 2017 13:30 (1 hour)

Building of an application: code structure, sequential vs. MT builds

Presenter: JAN, Pipek (I)

Session Classification: Geant4 applications

Contribution ID: 6

Type: **not specified**

Introduction to Geometry

Tuesday, 16 May 2017 09:00 (1h 30m)

Units of measurement, materials, solids and volumes. Regions. Debugging tools

Presenter: JAN, Pipek (I)

Session Classification: Geometry

Contribution ID: 7

Type: **not specified**

Advanced geometry features

Tuesday, 16 May 2017 13:30 (45 minutes)

EM fields. Replicas and parametrizations. GDML exchange format

Presenter: PANDOLA, Luciano (INFN Laboratori Nazionali di Frascati)

Session Classification: Geometry

Contribution ID: 8

Type: **not specified**

Primary generation

Tuesday, 16 May 2017 16:00 (40 minutes)

G4ParticleGun, Geant4 General Particle Source, Other interfaces, Custom generators

Presenter: PANDOLA, Luciano (INFN Laboratori Nazionali di Frascati)

Session Classification: Primary generation

Contribution ID: 9

Type: **not specified**

Geant4 physics - part 1

Wednesday, 17 May 2017 09:00 (45 minutes)

Physics lists. Particles and Processes. Tracking sequence. Physics constructors and modular physics lists

Presenter: JAN, Pipek (I)

Session Classification: Physics

Contribution ID: **10**

Type: **not specified**

Geant4 physics - part 2

Wednesday, 17 May 2017 16:00 (1 hour)

Mixed MC: tracking cuts, cut-in-range. Alongstep/poststep. Models for the processes (overview of EM and hadronic models). Validation. (Custom extensions)

Presenter: PANDOLA, Luciano (INFN Laboratori Nazionali di Frascati)

Session Classification: Physics

Contribution ID: 11

Type: **not specified**

Geant4 kernel - part 1

Wednesday, 17 May 2017 13:30 (1 hour)

Nomenclature. User Action Classes. Command-based scoring. g4analysis tools

Presenter: JAN, Pipek (I)

Session Classification: Interaction with the Geant4 kernel

Contribution ID: **12**

Type: **not specified**

User interfaces

Wednesday, 17 May 2017 14:30 (20 minutes)

Custom UI commands. G4GenericMessenger

Presenter: JAN, Pipek (I)

Session Classification: Interaction with the Geant4 kernel

Contribution ID: 13

Type: **not specified**

MT in a nutshell

Wednesday, 17 May 2017 14:50 (40 minutes)

Presenter: JAN, Pipek (I)

Session Classification: Interaction with the Geant4 kernel

Contribution ID: 14

Type: **not specified**

Introduction to Monte Carlo tracking and Geant4 - part 1

Monday, 15 May 2017 09:40 (50 minutes)

The MC method (history), Monte Carlo tracking (conceptual).

Geant4; what it is. History and main facts.

Multi-Thread capability

Geant4: overview of uses and experiments

Presenter: PANDOLA, Luciano (INFN Laboratori Nazionali di Frascati)

Session Classification: Geant4: overview and installation

Contribution ID: 15

Type: **not specified**

Geant4 kernel - part 2

Thursday, 18 May 2017 09:00 (45 minutes)

Sensitive detectors. Primitives and native scoring. Retrieve information from native scoring

Presenter: PANDOLA, Luciano (INFN Laboratori Nazionali di Frascati)

Session Classification: Interaction with the Geant4 kernel

Contribution ID: 16

Type: **not specified**

Geant4 kernel - part 3

Thursday, 18 May 2017 11:00 (1 hour)

Custom sensitive detectors. Hits and hits collections. Implementation and logic of SD. Retrieval of information.

Presenter: PANDOLA, Luciano (INFN Laboratori Nazionali di Frascati)

Session Classification: Interaction with the Geant4 kernel