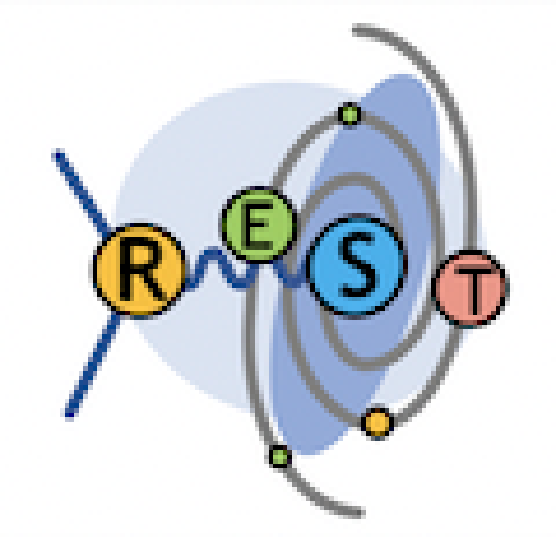
REST-for-Physics Training School @ DESY [CANCELLED]



Report of Contributions

Contribution ID: **1** Type: **not specified**

Farewell

Friday 17 March 2023 13:20 (10 minutes)

Contribution ID: **2** Type: **not specified**

Social Event

Thursday 16 March 2023 20:00 (4 hours)

Presenter: HEUCHEL, Daniel (DESY)

Contribution ID: **3** Type: **not specified**

REST-for-Physics in a nutshell

Thursday 16 March 2023 08:30 (1h 30m)

A general overview of all the REST-for-Physics ecosystem, including:

- Event data types, metadata classes and REST processes.
- Core classes: TRestRun, TRestAnalysisTree, TRestDataSet, …
- Helper classes: TRestTools, TRestStringHelper, …
- Using units inside REST (TRestSystemOfUnits)
- Physics constants (TRestPhysics)
- Output levels (TRestStringOutput)
- Code and data versioning system
- Event processing and data workflow
- Quick description of different REST libraries.
- Finding help and information. API, user guide, publications.

Session Classification: Introduction to REST-for-Physics

Contribution ID: **4** Type: **not specified**

Geant4 simulations using restG4

Thursday 16 March 2023 10:00 (1h 10m)

In this session we will learn about restG4 and the REST-for-Physics geant4lib that can be used to process the results obtained with a restG4 simulation.

The main components of a restG4 simulation will be described, such as particle generator, physics lists, GDML geometry, and geant4 metadata describing the simulation conditions.

Exercises:
- Visualise and modify a GDML geometry.
- Launch a simulation on that geometry and visualise the events.

Session Classification: Introduction to REST-for-Physics

Contribution ID: **5** Type: **not specified**

Accessing data using REST-for-Physics

Thursday 16 March 2023 11:30 (1 hour)

We will learn how to access REST-for-Physics generated data by different means, accessing meta-data classes, reading analysis tree, or looping on events are some of the common tasks performed with REST.

Different ways to access the data will be introduced in different environments, using C-macros, python scripts, using restRoot interactive ROOT-shell, or exploring a file using a ROOT browser.

Session Classification: Introduction to REST-for-Physics

Contribution ID: **6** Type: **not specified**

Event reconstruction and detector response in REST-for-Physics

Thursday 16 March 2023 14:30 (2 hours)

During this session we will provide details about detector readout construction, how to use gas properties and how to process data that allow us to introduce different detector physics phenomenology in our MonteCarlo or experimental data.

Session Classification: Event data processing inside REST-for-Physics

Contribution ID: **7** Type: **not specified**

Rawsignal processing in REST-for-Physics

Thursday 16 March 2023 17:00 (2 hours)

The rawlib library will be introduced in further detail, reviewing a TRestRawSignalEvent structure.

We will see how to process signals to perform different signal conditioning operations, such as smoothing, fitting, shaping and/or analysing waveform properties.

Session Classification: Event data processing inside REST-for-Physics

Contribution ID: **8** Type: **not specified**

Working on GitHub

Friday 17 March 2023 09:00 (1h 30m)

We will learn in this session basic concepts about code development in teams, such as:

- GitHub Pull-Requests
- Validation pipelines and unit tests (What it is/How to build one)
- Documenting using Doxygen
- Creating issues and providing feedback!
- Contribution guide and naming conventions
- Good practices while contributing to common codes

Session Classification: Contributing to REST-for-Physics

Contribution ID: **9** Type: **not specified**

Creating your own REST classes

Friday 17 March 2023 10:50 (1h 30m)

- Create a new metadata class
- Create a new process
- Modify an existing process
- Build your own data processing flow using existing and your newly created process.
- Compile your own REST-for-Physics library.

Session Classification: Contributing to REST-for-Physics

Contribution ID: **10** Type: **not specified**

Summary and overview

Friday 17 March 2023 12:20 (1 hour)

- feedback
- discussions
- questions
- suggestions
- comments

Session Classification: Contributing to REST-for-Physics